XCVIII—3

A

TREATISE

ON THE

STUDY OF ANTIQUITIES

AS THE COMMENTARY

TO HISTORICAL LEARNING,

Sketching out

A GENERAL LINE OF RESEARCH:

Alſo Marking and Explaining

SOME OF THE DESIDERATA.

With an APPENDIX.

N° I. On the Elements of Speach.

N° II. On the Origin of Written Language, Picture, Hieroglyphic, and Elementary-writing.

N° III. On the Ships of the Ancients.

N° IV. On the Chariots of the Ancients.

By T. POWNALL.

Ὅστις, ὃν ἀναλῦσαι οἷός τε ἐστι πάντα τὰ γένεα ὑπὸ μίαν τε καὶ τὰν αὐτὰν ὀρχὰν, καὶ πάλιν συνθεῖναί τε, καὶ συναρμόσασθαι· οὗτος δοκεῖ μοι σοφώτατος ἡμεν καὶ πανάληθέστατος; ἔτι δὲ καὶ καλὰν σκοπιὰν εὑρηκέναι.

Archytas de Sapientia, Lib. I. quoted by Jamblicus.

LONDON,

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M.DCC.LXXXII.

BSL

TO

PRESIDENT, COVNCIL, AND FELLOWS

OF

THE SOCIETY OF ANTIQVARIES,

THE FOLLOWING TREATISE

IS,

AS A TESTIMONY OF RESPECT

TO THAT LEARNED BODY,

ADDRESSED AND DEDICATED

BY

T. POWNALL.

PREFACE.

A PREFACE is in general written and given to a work as its letter of introduction and recommendation to the Reader. The merits of the work are officiously holden forth to his eye: and every art of addreſs is uſed to make a favourable impreſſion. This preface on the contrary, pointing out the defects and demerits of this work, approaches the reader with an apology.

The firſt draught of the following Treatiſe was made, with reference to the general ſubject, in ſeveral ſeparate papers. This courſe of Study was recurred to at a period when the Author, ſinking under the misfortune of a loſs in life which he

had ſuſtained, ſought conſolation not by arguments againſt grief which nature muſt feel; but in an endeavour to prevent the mind from dwelling on and liſtening too much to its own feelings, by diverting it into a courſe of ſtudy which had formerly amuſed it. Out of this reviſion of his former reſearches, when he was a reading and not a buſy man, aroſe ſome of theſe papers. Others had been written within the *intervalla negotiorum*, even when he was engaged in publick buſineſs. Some of theſe have been read at the Society of Antiquaries, and the author hath been flattered by the manner in which they were received. About two years ago, when he quitted parliament, he began to collect theſe papers under the form in which they now appear. The writing of this treatiſe amuſed him: thinking that the reading of it might amuſe others; and that by *pointing out a line of reſearch to the Study of Antiquaries*, the work might not be altogether uſeleſs; he gave the copy for this impreſſion to the Bookſeller. He neither derives

derives vanity from being an Author; nor profit from being a publiſher.

In page 79 of the following treatiſe, the author entered into the diſcuſſion of the Arithmetic of the Ancients, firſt reduced into a ſcience (as is ſaid) by Pythagoras the Samian, perhaps firſt by him introduced as ſuch to the Greeks. After explaining here, in the courſe of the work, the uſe and abſolute neceſſity which a practical ſtudent has of underſtanding the operations of this ſcience, in the manner in which the Ancients worked them, not only in abſtract mathematical calculations, but as applied to weight and meaſure, and to nummulary computations, he referred to a little treatiſe, wherein he went into the explanation of that matter as of a *Deſideratum*. This was meant for the third number in the Appendix. The paper written many years ago, is ſomewhere miſlaid: he has not been able to find it. As it was drawn up in a mathematical line of reaſoning (a ſpecies of ſtudy which he has long

ceaſed to exerciſe himſelf in) he is not able to recollect in that form his ideas on the ſubject. He wiſhes therefore to recommend it to the notice of ſome of the learned members of the Antiquarian Society, who are converſant in mathematics, eſpecially in thoſe of the Ancients *.

As far as he remembers, he firſt explained the general mode of the decuple numeration; he then endeavoured to ſhew that all the practical operations of the antient Arithmetick, prior to the introduction and uſe of the Arabic method, were performed by means of the *Abacus Pythagoricus*. That this was the *reckoning Board* of the Greeks and Romans, was perhaps derived from the Ægyptians, and was no other than the chequer and counters for-

* The following, amongſt others, are books which may be referred to on this occaſion.

Nicomachi Ἀριθμητικὴ Εἰσαγωγή.

Euclidis, lib. 7, 8, 9. Elementorum, &c.

Theonis Smyrnæi Lib. de Arithmetica.

Fabricius alſo mentions a MS. Treatiſe of Pſellus in the Medical Library.

The Arithmetic of Diophantus is the Analytic Algebra of the Arabians.

merly

merly uſed in the Arithmetick of our Exchequer and Cofferers office.

The numeration was reckoned by a *decuple ſeries* of unites; which ſeries was formed at two *repriſes* of fives; as, one, two, three, four, five: five—one or ſix; five—two or ſeven; five—three or eight; five—four or nine; five—five or ten. This ſeries thus formed, hath been univerſally obſerved by moſt nations: and however it may ſeem at firſt view to be founded in caprice; he endeavoured to ſhow that its univerſality aroſe from its being derived from nature. He here explained this from the *natural* original mode of reckoning by the fingures and hand; as thus, the four fingers expreſſed the firſt four numbers; the whole hand (the thumb and fingers forming an angle, as V,) expreſſed the fifth. This whole hand, with one, two, three, or four fingers of the other hand, gave ſix, ſeven, eight, nine: and the two hands croſſed at the ſaid angles gave the figure X.

He then entered into the operations of the ancient arithmetick as conducted on the *checquer-board* * ; but all this he has been under the neceſſity of deferring for the preſent.

It is as whimſical as it is true, that an Author ſees his work, as well in the matter as to the manner, in a different view, when he reads it in print, from that in which it appears when he reads it in his own hand-writing: he rather thinks over than reads the latter, or, if he reads, does it rather with the mind's eye than with that of the body: he reads it with reference to an accompaniment of ideas, which the copy does not actually contain: which yet the author thinks he has ſo explained as to accompany his reaſoning. To theſe circumſtances, not only literal errors and grammatical inaccuracies, but even ſome obſcurities are imputable: ſome ſuch the

* Dr. R. Record's Arithmetick, Dialogue 2d, may be referred to on this head.

Author

Author has found in ſome of the firſt ſheets of this treatiſe, which have been printed a year ago, which he could wiſh to have corrected, but the copies were worked off, and it was too late.

The different degree of accuracy in the reaſoning, with which different parts of this work are conducted, the unequal ſpirit of compoſition, in which different parts are written, are owing to the degree of painful abſtraction with which the mind was at times drawn off from its ſubject, or to the degree of attention which it was able to exert upon it at different moments of the period above referred to.

There remains one point on which he wiſhes to make an apology to ſerious people. The ideas hazarded in ſome parts of this treatiſe may perhaps croſs upon thoſe *Forms*, with which theſe ſerious people have been accuſtomed to cloath their opinions: yet as to *Things*, the author is, as he thinks it the duty of every good citizen to be, as ſerious

ſerious about them, as the moſt zealous profeſſor.

With theſe explanations, and with theſe apologies, he commits his work to the amuſement of ſuch as may think it worth their peruſal.

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1 That the Society of Antiquaries is peculiarly, by the nature of it's eſtabliſhment and inſtitutions, adapted for the inveſtigation of ancient learning; and for that knowledge of antiquities which may become the ground of the *Hiſtoria propria et juſta.*

2 Is one of the moſt uſeful *Literary Eſtabliſhments* which have been made in this country; is not only a repertory of the collections of Antiquarian Information, but actuates a principle which hath a tendency to reſtore and re-edify hiſtory from the ruins amidſt which it lies.

3 The two errors of the falſe antiquary marked; 1ſt, That of forming too haſtily viſionary ſyſtems; and 2dly, That of making endleſs and uſeleſs collections of relics and fragments, without ſcope or view to any one point.

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4 To explain the *Principle* of this branch of learning; the *Principle* on which the ſociety is ſuppoſed to act; and the *End* towards which the inquiries and labours of the Society ought to be directed; is *the ſcope of this treatiſe*; it marks in its courſe ſome of the *Deſiderata* in this branch of learning.

5 Two concurrent lines of ſtudy, that of hiſtory, properly ſo called, both of nature and man; and that experimental hiſtory of the extending and advancing powers of man, as they are elicited by the varying and encreaſing wants of his being.

6 That there is, as it were, a *golden chain* deſcending from heaven, by which all things are linked together in a general ſyſtem; and that man hath powers to trace back the *links of this chain* up to the primary principles of this ſyſtem; and that the ſtudy of antiquities ſhould be purſued in this ſpirit of philoſophy; and the knowledge acquired thereby applied *as the commentary of hiſtory.*

7—43. The work then commences, in the ſpirit of this philoſophy, and in the line of the rule here layed down, with

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with an *Analyſis of the powers of Enunciation* and the *Elements of Speech*, and endeavours to mark, both in reaſoning and by example, the uſe which the truly philoſophic Antiquary may make in the reſolution and compoſition of theſe powers and elements, to the inveſtigation of ancient hiſtory. This part refers to N° I. of the Appendix, which is a treatiſe written expreſsly on this ſubject; it goes to an inquiry into the powers and acts of vocal and articulated enunciation as they exiſt in the nature of man, and as the principles thereof are to be found in all languages: this the true ground of *Antiquarian Etymology*, which, without it, will ever be the mere ringing changes on one's own ideas, and a wretched punning. Under this head the *language of men* as ſpoken in the times of the kingdom of Troy, the language of ancient Greece before the arrival of the Helleniſts, and the language of ancient Europe in general, are conſidered and compared.

43—51. The Treatiſe then proceeds, by the ſame principles, and in the ſame line, to inquire into and explain the

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various efforts and inventions which men in all ages and countries have made to mark for diſtant places and times, the inviſible tranſient expreſſion of ideas, which ſpeech can only give at the preſent time and place. This part goes in general to an inquiry into the origin of *Picture-writing*, into that which is commonly called *Hieroglyphics*, and into the nature of the *Elementary*, or what is vulgarly called Alphabetical writing; ſhows how theſe in their reciprocal uſe and interpretation have given occaſion to the deforming the true and direct repreſentation of the human Being and Life; and how by a philoſophic reſolution of the modes of the deformation, joined to combination of ſuch fragments of facts as remain amidſt the ruins of hiſtory, the Antiquary may elicit truth out of fable, and reform and re-edify ancient hiſtory to ſome ſemblance at leaſt of the ſtate of things in fact, which it repreſents. This part refers for a more particular account of theſe points of antiquity to N° II. of the Appendix, which is a Treatiſe on this ſubject in detail.

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52—53. Hiſtory compared to a ſhip ſailing down the tide of Time, fraught with every thing uſeful to be known, but which hath ſuffered ſhip-wreck; the method of the ſtudy of Antiquities explained by alluſions to this ſimile.
54—55. The folly of merely making collections of Antiquities, compared with the right way of collecting and aſſorting the diſcoveries of particulars which the Antiquary may make, ſo as by an induction of theſe particulars to lead to ſome combination of the general ſyſtem of fact.
56—57. Man is a finite Being circumſcribed in his *natural* wants; although not eaſily defined and circumſcribed in his *artificial* wants; yet his improved reſources being proportioned and adequate to theſe, in the various progreſſions and revolutions of his exiſtence, the line of inveſtigation into the one is marked by the knowledge of the other, ſo that the ſtudy of antiquities, here in this branch, is not a boundleſs purſuit but is defined both in mode and extent. This explained by a reference to the cloathing ſuited to the ſame kind of limbs in the ſame animals in all ages, and

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to the inſtruments uſed by all people, being ſimilar as ſuited to like hands and like actions, let imagination or caprice try never ſo much to vary them.

58 This Theorem applied to ſhow that there may be an aſcertained line of developing the fabulous, and reſolving the mythic parts of Hiſtory, ſo far as they reſpect the accounts of the firſt advancing ſtages of human civilization.

59 By a careful analyſis of human nature, and by a combination from analogy of ſuch broken accounts as the ſhip-wreck of Hiſtory affords, a deſcription, almoſt hiſtoric, of the progreſs and firſt ſtages of human life may be compoſed; ſuch as ſhall give a juſt repreſentation of the general courſe of events.

62 This exemplified in the fabulous accounts given of the ſettlements made in the Ægean and Euxine Seas, and coaſts thereof by the Phœnicians, Ægyptians, and Helleniſts.

66 An idea, profeſſedly an imperfect one, thrown out of the commerce of the Euxine and Weſtern ports of the Mediterranean Seas; the Chittim and Tar-

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Tarſhiſh of the ancients; and a wiſh expreſſed, that Mr. Clarke, author of the Treatiſe on Roman, Saxon, and Engliſh Coins, would ſupply the *Deſideratum* in this branch of hiſtoric learning as to the one; and that Mr. Bryant would turn his thoughts to the other.

69 When the hiſtory of thoſe parts and periods are once developed of their myſterious garb, we ſhall receive very different accounts from what the deformed and abuſed fables now hold forth; this exemplified by an unravelled account of the ſettlements and excluſive commerce of the Cyclops and their courts of admiralty.

73 Ancient Hiſtory compared to a *deformed picture*, and the philoſophic reſtauration of it, to the mathematic mirrour, which will reflect ſuch deformed picture in its true proportions and contours, *tanquam in ſpeculo*.

The treatiſe next proceeds to conſider the mode in which the philoſophic antiquary may conduct his commentary on the *Hiſtoria propria et juſta*.

74 A knowledge of the component parts and living ſyſtem of the human com-

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munity, 1ſt in Society, and 2dly under Government, without which, Hiſtory will be but a ſtory of a creature little known to us, ſtated as a *Deſideratum*. Here the Antiquary, whoſe commentary gives the knowledge of this proceſs of the human Being, becomes the interpreter, who renders *hiſtory intelligible*, and makes it become *experimental knowledge*. This knowledge alone can explain thoſe *viciſſitudines rerum et fundamenta Prudentiæ*, which Lord Verulam ſtates as the proper fruit of hiſtoric learning. This exemplified by different inſtances in hiſtory; in the caſe of the Roman ſubject, as taken from his civil rights, and ſubjected to military *imperium*: in the caſe of the ſtate and progreſs of the Grecian community in the time of the Trojan war, as explained by Thucydides; the ſtate of the Ægyptian community; that of the Jews, and that of the Phœnicians.

89 Theſe preparatory and explanatory inſtances lead to the application of this Theorem, to the ſtating of the ſyſtem of meaſures planned by Alexander, who was the firſt prince-ſtateſman

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man who combined upon ſyſtem the intereſt and powers of commerce, with the operations of polity.
96 An actual knowledge (ſuch on which experience may be founded) of the ancient commerce of the Eaſt, of Perſia, and of India, wanted. It is from the local knowledge of ſcientific mercantile men alone, who have lived in and had experience of thoſe regions, that the world can expect practical information on this ſubject.
97 The Treatiſe here cloſes its obſervations on the nature of the community, and of commerce, as the ſource of wealth and power to it; and proceeds to the conſideration of the neceſſity of underſtanding the channels in which certain portions of this wealth, as the revenues of the
101 ſtate, ran. This line of reſearch, illuſtrated by a ſummary deſcription of *the Roman Revenues and meaſures of finance.*
116 The Treatiſe next proceeds to conſider the actual mechanical force of the community of the ancients in ſome inſtances not hitherto adequately explained, nor preciſely underſtood. The firſt inſtance is, that of our want of

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of information as to the *ſhips of war of the ancients*, their *Triremes*, *Quadriremes*, and *Quinqueremes*. The diſcovery and learned deſcription of theſe matters made and given by General Melville, here firſt publiſhed, whoſe Memoire on the ſubject in N° III. of
120 the Appendix is referred to. The ſecond inſtance is that of the *military Chariot* of the ancients; a particular Treatiſe on this ſubject is given and referred to in N° IV. of the Appendix.
122 Of the chronology of the Ancients and its defects, on which a compariſon of the Mythick or Fabulous, and of the Hiſtoric Narratives of the Ancients, is offered to obſervation. While
124 on one hand the defects of hiſtory, which pretends to give the actual ſtate of fact and deed, in the true order of time, arranged, fixed, and aſcertained by epochs, which it neither does nor can ſo give for certain, are conſidered; the *Mythic or Fabulous Hiſtory* is ſtated on the other as *giving a general repreſentation of the general courſe of events*, and not a particular narrative of a particular train of facts. In that view, the latter is ſtated as giving ſufficient knowledge to all the purpoſes of experience and uſe,

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uſe, equally as well as that which aſſumes and pretends to give an actual ſtate of fact and deed. From this opinion a rule is laid down, that *while on one hand we ſhould not refuſe all hiſtoric faith to what is repreſented only in fable; ſo on the other extream we muſt not receive that as hiſtoric narrative of actual facts and events, which is only repreſentation in apologue and muthos of the general ſtate and courſe of events in the hiſtory of man and nature.*

124 This doctrine exemplified firſt; by an explanation of the fabulous hiſtory of the Argonautic expedition.

128—144. And ſecondly, by a philoſophic commentary on the Antidiluvian hiſtory, which the books of Moſes give, conſidered as an apologue.

145 This rule further applied to thoſe Fables which ſeem to veil the knowledge of the uſe of the polarity of the magnatic arrow, as known to and uſed by the ancients in their navigation.

END OF THE FIRST PART.

APPENDIX.

N° I.

Analyſis of the elements of ſpeech, as applicable to Etymology in the ſtudy of Antiquities.

N° II.

A Treatiſe on picture-writing, hieroglyphick and elementary writing, ſhewing how the firſt aroſe from nature, the ſecond from art; with an illuſtration of the effects which theſe have had on the deviations and mutations of language; in a letter to Tho. Aſtle, Eſq. Oct. 25, 1778.

Read at the Society of Antiquaries, London, Jan. 18, 1781.

N° III.

Memoire.—Being a narrative of the inveſtigations and diſcoveries made on the ſubject of the *Triremes*, *Quadriremes*, and *Quinqueremes*, of the Antients, of the nature of Row-gallery, of the poſting the rowers, and of the mode by which theſe veſſels were rowed, by Lieutenant

tenant General MELVILL. Communicated to Governor POWNALL, May 15, 1781.

N° IV.

Diſſertation on the antient Chariot, the exerciſe of it in the race; and the application of it to real ſervice in war.

PART SECOND.

The obſervations on the ſtudy of Antiquities, *as the commentary of hiſtory* now paſſes from that period which is called *Ancient Hiſtory*, to a ſucceeding period, wherein *a new race of men* invaded the cultured world, and overwhelmed, as with a deluge, its civilization.

The ſpirit and character of theſe two periods compared.

The facts of this general revolution in the inhabitancy, the occupancy, and government of the world, are indeed generally and incidentally told by the Greek and Roman writers of hiſtory; but as the ſources and firſt courſes of theſe people lay beyond the *hiſtoric horizon*; as the events were prior to the chronologic canon of hiſtory; and the criſis of theſe events not within the ſcope of the philoſophy of theſe

theſe writers, this revolution hath been rather looked up to with aſtoniſhment and wonder, than inveſtigated and explained.

The Philoſophic Antiquary will, as the commentator on hiſtory, examine and thence explain this, in a more detailed and circumſtantial manner, than the hiſtorian may perhaps think neceſſary. He will, from the fragments of facts, as they lye ſcattered amidſt the maſs of hiſtoric ruins, or buried and overgrown by the weeds of fable, ſo combine the accounts of this great event as to recompoſe them into ſome ſemblance of the original fact.

The Treatiſe, after given the rule, proceeds to the application of it, by an attempt to deſcribe the circumſtances and preparatory events, which led to this revolution of the world.

The *Hiſtoric Horizon* defined in its northern limits, with reference to the Cimri, Cimbri, Cimmerians, or Hyperboreans, who are fabulouſly deſcribed in ancient hiſtory to have had their dwelling *beyond the bounds of the earth*, beyond chaos, in Tartaros; as alſo to the Teyts or Titans, the Teuts or Dteutſch, whoſe habitancy and the proceſſion of whoſe generations were bounded by this horizon not beyond but *on the extream borders of the earth*. The accounts given by Heſiod of this firſt inhabitancy

habitancy are explained and ſhewn to coincide with thoſe given by our HS. Hiſtory.

The Cymri traced in the proceſſions of their generations and habitancy (beyond the boundary of the hiſtoric horizon) from the Mœotic Lake, to the Cimbric Iſles of the Baltic, and to the Weſtern Iſles and coaſts of Europe.

The Teuts in like manner traced along the extremities of this horizon to the coaſts of the Baltic, the Saxon ſhores, and into the Britiſh iſles.

The terminations *Ingi*; *Ait*, *Aitæ* or *Ættæ*; *Ones* or *Vones*; explained, as they enter into the compoſition of moſt of the names of both theſe people.

The Treatiſe then proceeds to ſketch and draw out the lines in which the hiſtory of the firſt inhabitants, the proceſſion of their generations, and the final ſettlement of them as nations ſhould be inveſtigated.

The nature of their ſituation, and of the circumſtance, of the regions in which they dwelt, and which they occupied, deſcribed. The forming cauſe of theſe people becoming finally a great naval power, hence derived and explained in its principles.

The Cimbric Cherſoneſus, ſhewn to have been an iſland, and the Low Countries,

tries, now called Flanders, to have been Sea, with ſome exceptions of flooded marſhes and iſlands.

That the inhabitants of theſe regions were fiſhermen, marine navigators, rovers, and pirates.

The nature of this ancient mode of life deſcribed as to its ſpirit, character, and naval operations.

Theſe Vics, Wiggs, Wiggans, and Vicanders (afterwards called Picts), deſcribed in their roving excurſions, in their colonial ſettlements, and in their conqueſts.

Concurrent with this, an account is given of the ſuppoſed firſt original, and next of the earlieſt adventitious inhabitants of Britain; of the Cymri, the Cotti, Attacotti, and Eſcotti, as found therein; alſo of the Celtæ and Belgæ.

Hence a more particular account of the actions, operations, and ſettlements, of the Vics, Vickanders, or Picts, in Scotland, in the eaſtern and ſouthern iſles and coaſts of Britain; and on the coaſts of Normandy and Aquitaine, where they were in the earlieſt times under the name Cyn-haid, Cyn-aït, or as Herodotus writes it *Kunaïtæ*.

The manner and line marked out in which the origin, progreſſion, amplification, and eſtabliſhment, of the GREAT NORTHERN NAVAL POWER, may be inveſtigated;

tigated; according to which rule, an Eſſay towards its hiſtory, from the earlieſt times to the period when it was advanced, ſo as to come forward and diſpute the empire of the world with Rome, is inſerted.

The terreſtrial lines in which the proceſſions in generation and habitancy of the Teuts or Teyts, of the Celts or Gauls, may be inveſtigated, are marked. In the courſe of drawing which, an account is given of thoſe two fraternal branches of the ſons of Cottus, Gott-Teus, or Teubaal, the ſon of Japetus or Japhet, as they became in proceſs of time the ſettled inhabitants of Gaul and Germany, as nations.

The firſt inhabitants of Europe and of the Weſtern part of Aſia, as deriving from Gomer and Magog, the two ſons of Japetus, and their ſons Madai, Tubal, and Javan, particularly deſcribed: herein of the Tr'oïm, the Ach-aians, the Tr'achs or Thraces, D'achs or Daci and Davi. The Getæ, Teuts or Dteutſch, the Celtæ and their proceſſions, as Galli and Gallaitæ; Æoalians, or Gæol. This account cloſes with an etymology, different from what hath been hitherto given, of the appellatives German and Celt, as becoming national names.

From the reſearch *who* theſe people were, the treatiſe proceeds to mark the

line in which the inveſtigation into *what* they were ſhould train; that this ought to be purſued by a line wherein principles and facts combine. The exemplification and application of this mode of ſtudying this part of ancient hiſtory: and firſt of the Sylvan Life inhabiting and occupying the earth in its natural and original ſtate—of the Foreſt-hunter, the nature of his occupancy and population—of the Marine-hunter, or Fiſherman and Navigator, of his occupancy and population—of the ſcites, circumſtances and principles which give ſource to population—of the *advancing*, *ſtationary*, and *declining ſtate* of population in the different nations at different periods, as theſe circumſtances and theſe principles operate: Herein of the *temporary plethoriſm of populouſneſs* in certain periods of the progreſſion of civilization; as alſo of the fluctuation of inhabitancy and dominion in the early ages of the world in conſequence thereof.

The *temporary Plethoriſm* of the northern people who invaded and over-ran the Roman empire, explained from theſe principles by facts. The ſtate of their community explained, from whence is derived the reaſon why they were enabled to bring into the field ſuch multitudes beyond any proportion of numbers which ſettled

ſettled and compleatly civilized nations could bring there.

The eaſe with which they could migrate in a body, as a whole nation, explained from the principle, which they invariably and unalterably adhered to, *that of not becoming ſettled landworkers*; the operation and effect of this principle in the nature of their inhabitancy, and in the forms of their landed occupancy; their mode of life and character, their community an army, their inhabitancy a campaign; and their movements made by a ſyſtem of camps.—Their habitual experimental knowledge in the ſupply of a moving body, their knowledge and practice in the *Res Frumentaria*, and *Res Portoria*.

This again more particularly exemplified by the routs they took by ſea and up the great navigable rivers; the uſe they made of the naval power eſtabliſhed in the parts they came from or paſſed through.

As this treatiſe hath above explained and deſcribed the naval aſcendant power which exiſted in the Baltic, on the Saxon ſhores, and in the weſtern ocean; it now proceeds to deſcribe that which exiſted in the Euxine Sea, and on the rivers which run into it; as alſo that on the Iſter or Danube. The nature of the avenues and water-carriage of the Rhine and Danube

as leading to the very gates of Italy explained.

The relative numbers and force of the invading nations, and that of the empire of Rome, as they met on the frontiers, put in appoſition, by a compariſon of the nature of a loco-motive community, not yet divided into all thoſe branches of labour, employ, and ſervice, which form the members of a perfectly civilized community of ſettled inhabitants.

Of the nature of the line of the Roman frontiers and its defence; compared with the nature of the attacks which it had to reſiſt.

The effect of dividing the ſervices and commands: The effect of removing the ſeat of empire from Rome to Byzantium, called Conſtantinople.

This ſubject explained by an examination of the ſyſtem of dominions and frontiers, adopted and formed by the experience and prudence of Auguſtus. The effect which the empire experienced when the emperors quitted this ſyſtem; this exemplified by an explanation of, and a criticiſm upon the third ode of the third book of Horace.

The concluſion of this Antiquarian Commentary on this great Revolution, *ſo far as reſpects the cauſes of it.*

The

The ſame *conſidered in its effects* as it operated in the ſucceeding period of the world, to the eſtabliſhment of a new ſyſtem of occupancy, polity, and government. Herein of the *feudal ſtate* of property in land, and of the *military ſtate* of ſervice in the perſon; as a fundamental eſtabliſhment of the new Imperium.

That the ſpirit of the government, thus wholly military, conſidered the political conſtitution of the ſtate, and the adminiſtration thereof merely as œconomical; and had therefore no conception that it was of any import, or any ways neceſſary, that the political ſtate ſhould be co-extenſive or co-exiſtent with the *ſupream imperial* command of the *ſovereign*.

This principle explained as the ſource of the various Curiæ, Juriſdictions, Laws, Cuſtoms, and even Governments, which exiſted *in eodem Imperio* at the ſame time, independent of each other, and *paramont* within their reſpective juriſdictions, as political ſtates in their political œconomy.

After having thus ſketched out the line of reviſion by which the great revolution of the inhabitancy and ſtate of Europe may be inveſtigated, as to the eſtabliſhment of the new ſyſtem which hath from that period actuated it, the treatiſe proceeds to ſhew how the Antiquary of each country

country may take his own peculiar courſe of inquiry into the ancient ſtate of his own nation and community, by what means and by what modes of inhabitancy, cultivation, and property, it was poſſeſſed, by the ſeveral ſucceſſive people who dwelt in it; as alſo what form the community and government took under each; in what ſtate thoſe inhabitants, who are commonly and vulgarly called the original inhabitants, poſſeſſed and cultivated it; how they lived, and under what forms, and by what means, under the Romans, the Danes, Saxons, Normans; how and by what ways and means their conſtitutions of government took each in their reſpective form theſe ſucceſſions of revolutions; how their manners and cuſtoms.

All this applied to the Antiquities of Britain and England eſpecially.

PART

PART THE THIRD.

Inventarium opum humanarum quo excipiantur et breviter enumerentur omnia hominum bona et fortunæ (ſive ſint ex fructibus et proventibus naturæ, ſive artis) quæ jam habentur et quibus homines fruantur, adjectis iis, quæ olim innotuiſſe conſtat, nunc autem perierunt, &c. Bacon de Augment. Scient. Lib. III. c. 5.

Herein of the Antiquities of Abſtract Science; of Arts, neceſſary or ornamental in thoſe articles by which Man is lodged, cloathed, or fed. The commercial, mechanical, and agricultural Antiquary.

N. B. I give here the contents of the whole work as finiſhed; although the publication of the ſecond and third parts is deferred. It is deferred, as my Bookſeller doubts whether a work written on ſubjects of this nature, by a perſon of no literary character, will become an article of ſale ſufficient to pay the coſt of publiſhing, although, as I never take any money from a Bookſeller, the copy coſts him nothing.

The Reader is desired to correct, previous to reading the work, the following *Errata*, which escaped the Author's notice in the course of correcting the press, a task he is not much used to.

page	line	
7	24	lege *reprehensione*
8	13	dele *not*
15	22	after the word *it*, a full stop
26	26	after the word *used*, put a full stop.
29	18	after the word *of* insert *the*
31	4	after the word *of* insert *the*
33	23	read *Neptunia*
54	11	for *evacuation* lege *excavation*
55	9	from the word *voire* dele *e*
60	28	dele *of*
79	11	lege *complaints*
88	15	after the word *of* insert *the*
	20	dele *again*
94	ult	for *almost* lege *utmost*
95	1	for *Paulus* lege *Palus*
111	9	for *Quod te Fabricus* lege *Quo te Fabricius*
	14	for *ultiæa* lege *ultima*
120	10	for *seven* lege *nine*
135	19	after the word *seas* put a ;

A

TREATISE

ON THE

STUDY of ANTIQUITIES, &c.

THE Society of Antiquaries, a body of men knowing, ſome from learning, others from experience, in all the ſeveral branches of the hiſtory of man, and of the world his habitation, is, by the conſpiring information, and mutual communications of its members, as alſo by its being a Repertory of their collective learning and diſcoveries, peculiarly adapted to inſtitute and build up that *Hiſtoria propria et juſta*, which the Lord Verulam does hold to be alone actual and practick knowledge.

I have always conſidered this Society in its inſtitution as one of the moſt uſeful literary Eſtabliſhments which have been made in this country; as promoting and encouraging true and uſeful learning; as aiding and conducting the reſearches thereof to real and practical knowledge; the knowledge of our country; of our nation; of its actual hiſtory; of its laws and rights; of its civil conſtitution: As alſo by a hiſtory of the proceſſion of the encreaſing wants, and elicited reſources of man, leading to an Experience, applicable in practice to the ſtate of the ſyſtem in which he is placed; leading by experience of what has been under various circumſtances attempted, of what under various circumſtances hath been the effect of ſuch attempts, to information of what may and can, or what cannot, be done with his varied and encreaſed powers in the varied and extended circumſtances of his being.

When I conſider this Society as a Corporation, I ſuppoſe it to have been in its inſtitution ſomething beyond that of a mere Repertory. I look to ſome plaſtick principle, ſome tendency to affort as well as to collect; ſome recognizing principle which may reform as well as revive ſome of the multitude of materials which are every

every day brought to the mass of our discoveries, with a view to the restoring from its ruins, and re-edifying, that ancient Structure of which our numberless collections are but the reliques and dispersed fragments.

Did we follow the seductions of fancy, and quitting the sober steps of experience, hastily adopt system; and then from a dotage on our own phantoms, dress such system out in the rags and remnants of antiquity, we should only make work to mock ourselves: or were we on the other hand to persevere in making unmeaning endless collections without scope or view, we should be the dupes of our own futility, and become in either case ridiculous. The upstart fungus of system is poison to the mind; and an unnutritive mass of learning may create and indulge a false appetite, but never can feed the mind. Πολυμάθια νοὸν ἐκ διδάσκει *. All the learning in the world, if it stops short and rests on particulars, never will become knowledge. To avoid then these extreams of self-delusion on one hand, or of the false conceptions of barren folly on the other, we should keep our minds

* Heraclitus.

conſtantly fixed on the PRINCIPLE and END of our inſtitution.

To analyſe and explain this *principle*, to deſcribe that line of reſearch which leads to this *end*, and, in the way, to point out ſome of the *Deſiderata* of this branch of learning, is the purport of this Treatiſe.

The ſtudy of the ſyſtem of the human being; and of the ſtate of nature, of which that being is a part; is the buſineſs and duty of him who is to move and act in it. If he would have a real and practical knowledge of it, he muſt ſearch and examine, not only the preſent ſtate of nature, the actual and immediate ſtate of his local or temporary ſituation; but penetrate with philoſophic patience and inquiſition into ancient hiſtory, *ubi et Hominum et Naturæ res geſtæ et facinora memorantur.*

He ſhould examine and analyſe this ſyſtem, like a great machine in all its parts, powers, operations, and relations: he muſt endeavour to trace its nature in every period of its progreſſive exiſtence, and compare all with the preſent ſtate of it. "*Difficile enim eſt in Philoſophia*

" *pauca eſſe ei nota, cui non ſunt aut* " *plura aut omnia* *." Nor muſt this analyſis be made from any theoretick abſtract view of things in general; but by cloſely following ſtep by ſtep the path in which nature *acting* leads; and by a ſtrict induction of her laws as found in her actions. " *Omnes enim artes aliter ab iis* " *tractantur qui eas ad uſum transferunt,* " *aliter ab iis qui ipſarum artium tracta-* " *tu delectati nihil in vita ſunt aliud* " *acturi.*" In this line of reſearch conducted by this principle, he may hope to arrive at *the true end of learning*, THE KNOWLEDGE OF THE SYSTEM OF HIS EXISTENCE; AND AT EXPERIENCE IN THE USE AND APPLICATION OF HIS POWERS TO THE RIGHT POSSESSION AND ENJOYMENT OF IT.

There are two concurrent lines, in which this knowledge may be traced. The firſt is that of hiſtory properly ſo called, the other an experimental hiſtory of the varying and encreaſing wants, and of the reſources and various contrivances and inventions of man; as theſe have from time to time been called forth by the different wants of the varying ſituations of his being. This ſecond line of reſearch

* Cic. Tuſc. Quæſt. l. ii. § 1.

is to be purſued by forming what the lord Verulam calls "Inventarium opum humanarum."

If there was no ground as a baſis for theſe experiments in aſſorting the ſcattered fragments and reliques of antiquity to a Reinſtauration of (at leaſt) the knowledge of the ſyſtem to which they belonged; the labours of learning would be but the building (as our proverb expreſſes it) caſtles in the air; if there was no certain decided and defined courſe in the movements and operations of nature, all theory on which theſe experiments could be inſtituted, would originate in caprice, and muſt end in empiriciſm: but there is in nature, a ſyſtem by which every being is defined in its own eſſence, and in its relative exiſtence; by which that being hath a certain energy and defined extent of power, by which the direction, which thoſe powers in motion take, is determined. This ſyſtem conſiſts of a ſeries of cauſes and effects, linked together by that *golden chain* which deſcends from heaven. If then this ſyſtem exiſts by ſuch a ſeries in nature, there muſt be in the power of man a clue, by which reaſon in the patient ſpirit of inveſtigation may retrace back the links of this chain

to the primary, if not the very firſt principles on which the whole depends.

I will commence my application of this theorem with the firſt object of inveſtigation that muſt occur to the Antiquary in his reſearches into the hiſtoric traces of the human being. I ſhall apply it to that ſpecies of hiſtory which may be elicited by a truely philoſophic etumology, and a ſcientific examination of the various modes of enunciation, by which the primary elements of ſpeech became ſo inflected as to form various dialects of the ſame language, and ſo devious as to create various derivative languages.

" Humanâ voce nihil majus varium, " hujus tamen diſcrimina in ſingulis per- " ſonis facile internoſcimus. Nihil majus " varium quàm ſoni articulati, verba " ſcilicet, Via tamen inita eſt eam re- " ducendi ad paucas litteras alphabeti *. " In ſonis quædam eſt antiquitatis veritas " quam neque conſuetudine diverſam, ne- " que rerephenſione nullam, neque vo- " luntate noſtrâ tranſlatitiam efficere poſ- " ſumus †."

* Bacon de Augm. Scient.

† Sir T. Smith de vera pronunciatione Linguæ Græcæ. 1542.

The line of this reſearch may be conducted by an analyſis of the powers of articulation in man, deriving from the varying form and texture of the organs of ſpeech. The peculiar jointing and moving muſcles of the human limbs deciſively determine the ſpecific inflection of thoſe limbs; all the movements and attitudes therefore of all men in the world muſt be generically the ſame: Particular modes of exertion, caprices, and faſhions, and divers habits and cuſtoms, may create ſome perſonal, profeſſional, or even national peculiarities; yet all are reducible, by a knowledge of the conſtruction of the machine, to the movements and attitudes of the one defined animal man. The variant enunciation of the elementary ſounds of ſpeech may ſeem almoſt infinite and inſcrutable, not only as it ariſes amongſt various races of men; but alſo in the ſame race of men at different periods of time, and even in the ſame individual, but they are not ſo, nor will be found to be ſo when examined, either by the nature or the exerciſe of the organs which ſound them: various and almoſt diſcrepant as the pronunciation of the ſame language may ſound, ſpoken in different periods of time, in various climates, and under divers habits; different as the different ſounds uſed

by

by the various inhabitants of this earth, may ſeem: yet when the powers of enunciation, as they exiſt and are capable of being exerted, are analyſed, they will be found all to be confined to, and circumſcribed within, the ſame elements of ſpeech; and theſe elements alſo, however infinite the words of ſpeech may ſeem, when reſolved into their primary and indiviſible ſounds of voice, will be found not to exceed ſixteen. I ſhall not here enter further into the actual analyſis of this ſubject; as No. I. of the appendix is an expreſs treatiſe of this ſubject, conſidered as one of the *deſiderata* in the ſtudy of antiquities. I ſhall only obſerve that this method of reſolution and compoſition of the elements of ſpeech did actually lead in the ſixteenth century to many diſcoveries in the etymon and orthography of the dead languages. The truely philoſophic etymologiſts have, in many inſtances, traced back the deviations in different dialects of the ſame language, and the variations of different languages, through ſources which lay almoſt buried under the ruines of time, ſo as to diſcover the original root whence all derived. The diſcoveries made by theſe meritorious labours in this line of reſearch have led to the elucidation of the hiſtory of

man

man in many points eſſential to that hiſtory; to the aſcertaining and identifying the people, the perſons, the country, which were the objects of the narrative. This philoſophic etymology may tend to explain many circumſtances of the cuſtoms, policy, and deeds of theſe people, may in many caſes elucidate the geography and even chronology of thoſe countries.

An attentive inveſtigation, by this mode of reſolution and compoſition, of the different manner in which different nations pronounce reciprocally the words of each the other's language; repeated experiments by the ear, made on the peculiarities which each hath in ſounding the palatin elements of ſpeech, with a varying guttural catch of the voice, and in giving various aſpirations, by which they ſurcharge the dental, lingual, and labial elements; will elicite and elucidate many curious matters which ſhall continually ariſe to light by theſe experiments ſo conducted.

The Principle, indiſpenſably to be obſerved, and never to be departed from in this mode of reſearch, is, that the reſolution and compoſition be conducted in a conſtant reference of the *ſtock and branches* (if I may ſo expreſs myſelf) of the word under

under examination to *the roots* of the language, to which the word originally belonged. The firſt ſtep therefore is carefully both by internal and external evidence to enquire, whether the word or name is a native of, or foreign to, the language in which it is found *; whether technical, and ſpoken as foreign; whether adopted, and tranſlatitious; or whether derived through the ordinary generation of languages peculiar to each race of men, and naturalized; whether the thing, place, or perſon, which the word expreſſes, be foreign or domeſtic; if foreign, whether the name be ſuch, as the language, in which the word is found, would invent to deſcribe ſuch thing, place, or perſon by; or whether it is the word by which the nation in which the object exiſts doth in its own proper language expreſs it: if the object is domeſtick, whether the word be deſcriptive, or appellative; if ſo, whether the word, expreſſing the deſcription or appellation, be found amongſt, or was ever known to, the language of the country

* Plato, in the Dialogue called Cratulus, ſpeaking of the etymology of the word Πυρ, ignis, ſays, that being, as he apprehends, a barbarous or Phrygian word, he ſhall not attempt the analyſis of it by Grecian elements, and then lays down this rule, which I here mention. Εἴ τις ζητοι ταῦτα κατὰ τὴν Ἑλληνικὴν φύσιν ὡς ἰοικότως κεῖται, ἄλλα μὴ κατ' ἐκείνην ἐξ ἧς τὸ ὄνομα τυγχάνει ὄν, οἶσθα ὅτι ἄφοζοι ἄν.

or

or people that is or are named by it; or whether it be an aſſumed appellative of the peoples own invention, as a *nomme de guerre*, or a colony name. If it be deſcriptive, whether the deſcription ariſes from any real natural inherent Attributes of the perſon or thing deſcribed; or whether the deſcription is imputed, from circumſtances not inherent, but ariſing from habits of civil and military diſcipline, or opinions nurtured in religious eſtabliſhments, or merely from the caprice of fancy. Addreſſing myſelf to a learned Society, I need not obſerve, that all the deſcriptive appellative words, all commercial foederal terms, in ſhort, all words uſed by nations in their reciprocal intercourſe, expreſſive of things, places, or perſons, and which are therefore capable of being referred to two or more languages, fall under ſome of theſe claſſes. Much leſs need I load this tract with quotations giving examples of ſuch. Theſe enquiries into the Etymon, which proceeds by the internal evidence of the words, ſhould always be attended by the practical comment of the external evidence, which ariſes from the hiſtory of the country or nation, in which the thing, place, or perſon deſcribed exiſts, or is expreſſed; or at leaſt by ſuch comment

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as can be formed from concurrent evidences and analogy. Without a conſtant attention, referring alternately to both theſe evidences, where they are to be had; and without a more than ordinary attention, watching with a jealous eye over our imagination where we muſt proceed only by the one line of evidence; the Antiquary will become a mere futile punſter, ringing changes with ſyllables on the tinckling carillon of his own fancy. But as the deviations of language do not, ſo neither does not the labour of analyſing them end here. Knowledge of the ancient ſtate of things comes to us, communicated by language written and not ſpoken. It is not ſufficient that the Antiquary be converſant with the nature of the variations of the elements enounced, but a very attentive obſervation, how different nations or tribes, or even individuals in different climes, and at different periods of their progreſs in civilization, apply and uſe the ſame ſyſtem of elementary characters to expreſs that which is meant to be the ſame ſound. No two perſons receive exactly the ſame impreſſion from the ſame colour, nor will any two (if they are to expreſs that from memory) expreſs with a pencil the ſame preciſe *ton* of colour: no two perſons hearing the ſame

ſound,

ſound, of a word ſtrange to them, will receive the ſame impreſſion, or imitate it by the ſame enunciation; much leſs will they, if they are of a different nation, having a different language, write it down in the ſame manner. When the elements of ſpeech, ſurcharged with the *guttural catch* of the voice, or with the *aſpirates*, as the lingual dental, and labial elements are affected by them, come to be written down, accordingly as the more or leſs attentive habit of the ear catches the ſound, and according to the idea which each nation hath of the powers of the elementary character, by which they mean to expreſs that ſound; the words thus written, and thus compoſed, undergo ſuch metamorphoſes as to retain ſcarce any of that outward form with which their ſpirit was originally cloathed; beſides, there is in every particular race of people ſome peculiarities of enunciation, which another people or nation are not capable of expreſſing preciſely, for which peculiar tone they always ſubſtitute ſome other tone, ſomewhat (according to their own ear and expreſſion) ſimilar: For example, "the American Indians," (ſpeaking of my own knowledge, I ſpeak particularly of the five nations, and by way of confirmation, write from the teſtimony of one who

who perfectly underſtood their affairs *) " have no labials in their language, nor " can they perfectly pronounce a word " wherein there is a labial, and when one " endeavours to teach them theſe words, " they ſay they think it ridiculous to ſhut " their lips to ſpeak. Their language " abounds with gutturals, and ſtrong aſ- " pirations." To the ſame point, " The " Chineſe," ſays Pallas †, in his Journal through Siberia, " are not able to pro- " nounce R, but inſtead of it, make " uſe of L; and when two conſonants " come together, which frequently occurs " in the Ruſſian languge, they divide " them by the interpoſition of a vowel." On the contrary, the Northern Greeks generally inſerted between two vowels their digamma, in order to aid them in expreſſing thoſe emollient ſounds of the more ſouthern Helleniſts, which their groſſer rigid organs of ſpeech could not well expreſs without it, Mr. Bayer, in his Muſeum Sinicum (ſays Mr. Cox), gives ſeveral curious inſtances of the Chi-

* Lieutenant Governor Colden.

† Not having the book by me, I take my account from Mr. Cox's account of the Ruſſian Diſcoveries, in which he inſerts a Hiſtory of the Tranſactions and Commerce between the Ruſſians and Chineſe, a work containing many curious matters collected with great judgment, and explained with learning.

neſe

theſe mode of articulating thoſe ſounds which they have not in their own language; for inſtance, they change B, D, R, X Z, into P, T, L, S S.

For Crux they ſay Culuſu.
Baptizo - - - Papetiſo.
Cardinalis - - Kia-ul-ſi-na-li-ſu.
Spiritus - - - Su-pi-li-ti-ſu.
Adam - - - * Va-tam.
Eve - - - † Ngeva.
Chriſtus - - - Ki-li-ſu-tu-ſu.

" Hoc eſt corpus meum—Hoke ‡ nge-ſutu co-ulpuſu mevum."

From the uncertain and undefined idea which each nation, or each tribe, hath of the powers and combination of the elementary characters; ſome uſe one, and ſome another of the ſame, or even different claſſes, in their writing, when all mean to expreſs one and the ſame ſound; ſome even uſe particular marks, which are not defined letters, peculiar to themſelves, in order to expreſs their peculiar *guttural catch*, or the *aſpirations*, with which they

* Here is the initial, and † here the interpoſed digamma.
‡ G in the two inſtances muſt be only the mark of the digamma, and not a conſonant, and muſt be pronounced as Y, as when the Engliſh in Yorkſhire ſay Yate for Gate.

ſur-

ſurcharge their enunciation. I have myſelf been an ear-witneſs to the matters here ſtated. When preſent at the treaties or conferences with the Indians of North America, I have obſerved that every ſeveral interpreter has received a very different impreſſion of the ſound uttered by the Indian ſpeaking; and hath alſo uſed a different mode of expreſſing the ſame name, when endeavouring to enounce the ſame ſound. The ſound that ſtruck my ear did alſo ſeem, at the ſame time, very different from the tone ſeemingly impreſſed on the ear of the interpreter, or expreſſed by him; and if I had endeavoured to enounce what the Indian uttered, I ſhould have expreſſed it very differently from what the ſaid interpreter did: ſo that the ſame name or word becomes, when thus transferred from one lauguage to another, quite a different thing. But when theſe words, thus differently received by different ears, and thus differently expreſſed, come to be written down, the confuſion redoubles in perplexity: when however one is once appriſed of the fact, that theſe Indians uſe no *labial elements* of ſpeech, and that they expreſs a greater variety in the uſe of the *digamma*, and in the *aſpirats* than the Europeans know; and that the Europeans

do ſubſtitute, in order to expreſs theſe peculiar ſounds, each nation very different letters, to expreſs the ſame word, which yet do not really expreſs them; one cannot but ſee how the barbariſms muſt multiply upon each other. One can however obſerve that there is generally a kind of uniformity in theſe deviations, both in the impreſſions received, and in the peculiar utterance and writing of each nation. To mark this ſpecifically is the indiſpenſable duty of the philoſophic Antiquary in his operation of *etymology*. Analyſing hence any name or word, according to the peculiar texture of thoſe ſubſtituted elements of the language, wherein the word is received; and recompoſing it again according to the peculiarities of the language to which it originally belonged; ſuch words may generally be reſtored to their original etymon.

May I here be permitted to ſuggeſt an idea which in the courſe of the experience above-mentioned has often ſtruck me? My idea is, that the diverging of the human ſpeech into various languages hath ariſen more often, and gone into greater diverſities, ſince the invention of elementary writing, than from any other cauſe whatever.

whatever. I think that the ſimilarity which muſt, as an actual fact, be ſuppoſed to exiſt in the languages of different people, who underſtood one another prior to any account which hiſtory gives of the *vulgate uſe of letters*; and the great diſcrepancy which we know did actually exiſt in the languages of theſe ſame nations after the vulgate uſe of letters, is a proof of this.

If the various languages of the antient world were in this line of reſearch, by this reſolution and compoſition, reciprocally compared, at or about that period when civilization began to fructuate in an exuberance of population; when the civilized were iſſuing forth colonies in various emigrations, and forming various ſettlements, amongſt the yet uncivilized natives of the *ſylvan* world: If this analyſis at every ſtep it took looked to the hiſtory of thoſe times, although expreſſed in *metaphorical pictures*, although cloathed in *fables*, and thoſe fables afterwards deformed by ſilly devices of *mythology*; many very intereſting facts in the Hiſtory of Man would be brought to light, which have long lyen and muſt lie buried under the ruins that the devaſtation of their

wars and plunderings have made over the whole face of the earth.

I may here, referring to an incontrovertible proof in an illuſtrious example, aſſert, that ſuch a line of reſearch, conducted by ſuch philoſophick etymology, will lead to ſuch diſcoveries; for in Mr. Bryant's analyſis it hath in fact done ſo. His very ſuperior literature, led by uncommon ingenuity, hath through the ſources of ancient learning, opened, as it were, the fountains of antient knowledge; diſpelled that more than Egyptian darkneſs, under which the learned themſelves have been ſo long loſt. He hath given ſuch elucidation to the clouded hiſtory of the ancient world, that it ſhould ſeem, that truth, like the ſun, is beginning now to riſe on our hemiſphere. The more however that I hope from this firſt day-ſpring; the more anxiouſly do I fear, leſt any intervening medium ſhould overcaſt the dawn. I ſee no cloud, no ſpot, in our horizon, that can *obſtruct*; and yet there is ſome thing that ſeems diſpoſed to *refract* and may pervert theſe rays of opening light. It were much to be wiſhed, that in the uſe and application of his learning to his argument, he would attentively re-examine whether there be not

not ſome refractions cauſing ſome aberrations from the ſtrict right line of demonſtration. Where any thing has come ſo near perfection in its way, thoſe, who admire it, cannot but wiſh it to be, if poſſible, abſolutely ſo.

If by this mode of reſolution and compoſition of language, conducted by theſe philoſophic principles, the ſeveral individual *Literati* were ſeverally to purſue the etymology of thoſe languages, which they are moſt converſant in; and if univerſally the *Literati*, in different parts of the world were BY SOME ESTABLISHED SOCIETY reciprocally to communicate to each other the modes of their reſearches, the inſtitution and iſſue of their experiments, and the reſult in their diſcoveries; there would be found a much greater analogy, and a much nearer agnation, amongſt the different languages in the world, than their firſt appearances offer: ſuch an agnation at leaſt as, fairly traced, would by degrees tend to remove that almoſt inſurmountable difficulty, which lies in the *way of learning*. "*The variety of languages through which that way leads to knowledge.*" Although *an univerſal philoſophic language*, is rather to be wiſhed than obtained; and, if obtained, would be

found not to be retained unchangeable; although I have not, in what I here write, the leaſt reference to any ſuch idea, yet I think ſuch a general knowledge of terms and names, in the various languages of the earth, might be obtained; as that * "men "might more immediately apply to "things, whereas now a great part of our "time is ſpent in words, and that with "ſo little advantage, that we often blunt "the edge of our underſtanding by deal-"ing with ſuch rough and unpleaſant "tools." As Cicero ſays of Memory, that it is of two ſorts, the one more adapted to receive and retain the impreſſion of words; the other that of things †: So are the minds of men thus differently formed, or thus differently trained, that thoſe who have exerciſed themſelves in, and devoted their ſtudies to, the purſuit of things, are ſeldom ſo attentive to words, as to become good linguiſts: and on the contrary, thoſe who have kept their minds amuſed and exerciſed within the claſſic pale of words, and

* Baker's Reflections on Learning.

† Lucullus habuit divinam quandam memoriam rerum, verborum majorem Hortenſius: ſed quò plus in negotiis gerendis, res quam verba proſunt, hæc erat memoria illa præſtantior.

com-

compoſitions of language, are ſeldom much converſant with that philoſphy which looks to things. *A philoſophic Polyglott*, formed by means of ſuch intercourſe and communication of the Learned in divers nations, might thus be eſtabliſhed. Such a Polyglott, examined by reſolution and compoſition of the terms and their component elements, in the correſponding words of each language, by fair reference to the forms and tone, which theſe elements either alone or in compoſition, take, in the faſhion or habits peculiar to the enunciation or orthograhy of each language; by a ſedulous and cautious enquiry through means of ſuch an eſtabliſhed communication into the external circumſtances which might originally cauſe or afterwards affect theſe terms, as names or appellatives given or aſſumed; ſuch a Polyglott I ſay might greatly clear the path of learning, and render more practicable the paſs to knowledge, and anſwer all the practical purpoſes of an univerſal philoſophic language. I have been informed that there was, but ſince dead, a learned eccleſiaſtical Regular in Italy or Germany, who, on the baſis of his own ſingle learning and information, with undaunted courage and indefatigable

perſeverance, had laboured in a line of reſearch, into all the languages of the world, ſomewhat ſimilar to what is here ſuggeſted. If my information be right, and there now exiſt any relicks of theſe meritorious labours, they ought not to be ſecreted, or neglected, or loſt to the world; if they were ſuch as the accounts given repreſent them to have been, they might be made the ground-work of ſuch a lettered eſtabliſhment as I have preſumed to form an idea of. There are many learned men now living, peculiarly trained in their erudition to become members of ſuch a correſponding ſociety. Lieutenant-colonel Vallency, Mr. Bryant, Mr. Richardſon, the Profeſſor at Gottingen, Mr. Gebelin, Mr. Pallas, and the learned members of the ſociety at Peterſburg, have ſhewn in their works, and by what they ſingly have done, what might be done by ſuch a Society. Labourers are not wanting; the harveſt is abundant: and this period, in which the ſeveral great nations of Europe are aſſiduouſly inveſtigating the various regions of this our planet, and the various people who inhabit it, ſeems to be the ſeaſon, when the gathering into ſtores for uſe, the fruits of theſe labours, ſhould be begun, at leaſt ſhould be thought on.

From

From what has fallen in the way of a very ſuperficial curſory reading, ſuch as the writer of this paper, who is neither lettered nor learned, in his detached hours of leiſure has been capable of purſuing, I am convinced that a certain degree of agnation may be traced between the languages of the north-eaſtern and Chineſe Tartars with the weſtern Indians of North America; that a very cloſe agnation between the languages of the ancient northern nations of Europe, with the Greeks and Latins, would ariſe and perpetually occur in every line of this reſearch.

The earlieſt reference that can be made to that ſtate of civilization which gave ſource to the antient governments of Europe, commences at that period, when a race of ſtrangers, advanced to a degree of civilization and improvement in the arts, either as an emigrating tribe, or as a colony of adventurers, firſt ſettled in Phrygia amongſt a people then living the ſylvan-hunting, or roving paſtoral life. Theſe ſtrangers, either from an aſſumption of the title taken up of themſelves,

or

or * receiving it from the ſervility of a barbarous people feeling their inferiority, or from a tranſlation of a real name, meaning quite a different thing, were called Θεοι, ob Gods. They taught the inhabitants Agriculture, whence they became fixed to their habitation, and whence of courſe aroſe Civil Society. Over theſe civil ſocieties they eſtabliſhed Polity, and became their Kings and Governors. Who this race were, whether an emigrating Tartar tribe, or whether a Syrian or Egyptian colony, is not as yet beyond controverſy ſettled. Who the people were, amongſt whom theſe gods ſettled, may, I think, be fairly deduced by a reference to their language in the manner above ſuggeſted. Homer, who writes of thoſe times, tells us, that the names of perſons, things, and ſome animals, were different in the language of the gods from thoſe names by which the race of men called the ſame things. In the courſe of his poem he takes occaſion in two or three inſtances to mention both names, which each reſpectively uſed, whether theſe gods, ſpeaking in common uſe the ſame lan-

* Thus Caliban in Shakeſpear makes the drunken Trincalo his god.

That's a brave god, and bears celeſtial liquor!
Haſt thou not dropt from heaven?

guage

guage as the people, had (as the Indians of North America have) a *council-language* different from that which was in common uſe, or whether being of a different race they actually ſpoke a quite different language, is not clear. The languages ſpoken by men, their ſubjects, was the ſame in Phrygia and Thracia, and I believe originally in all the inhabited coaſts of the Ægean and Euxine ſeas. What this language was may be ſpecified from the ſpecifick words mentioned as peculiar to that language. Homer ſays, that the appellative by which Briareus (ſo called by the gods) was named by men, was Aigeon; now *Eigeon* in Welſh ſignifies the Ocean, an appellative exactly ſuited to the character, reſidence, and particular power of this great officer, who ſuperſeded Neptune. He ſays, that the river called by the gods Zanthus, was called by men 'Scamander: now, cammendwr means crooked or winding water, an exact deſcriptive appellative of this *winding river full of vortices*. It is common with the Welſh in many inſtances to prefix the particle Ys to many words. Prefix now this to *cammendwr*, and pronounce it, no uncommon way, as we pronounce eſquire, and you have *'Scammendwr*.

Homer

Homer ſays, that the night-hawk was called by the men cumindis; but by the gods *calebis*; now *calleas* is in Welſh this very bird. The fact here reverſes my deduction.

The poet ſays, there was a Taphos in the plain of Troy, which the gods called the tomb of Myrinne, while men called it ſimply Batteia. Now Beth in Welſh is a grave, and Beddiad (the ſame as Bettiat) is the plural a collective burying-place. The people thus called this burial Taphos by its generical name, while the gods in naming it had reference to ſome old ſtory of its being a burying-place of merchants, who came there formerly to trade with this foreign people. Horappollo ſays, that the ſymbol in picture-writing for merchants trading in foreign parts, was the Μυραινα, or lamprey.

Homer in his Odyſſee gives the name of a medicinal plant as called by the gods Moli. He does not mention any diſtinct name by which men called it. Moſt likely they adopted the name when they learnt and adopted the uſe of it, ſo as to call it by the ſame. There was a ſecret in gathering this plant known only to the gods; and

and the commentators ſay it is an Ægyptian plant; its root was black, but its head or flower as white as milk. Now, Moli ſignifies in Welſh a white ſcurf, eſpecially about the eyes. I could not but mention this latter inſtance, though, to ſay the truth, I repoſe not much upon it.

Plato diſcourſing of etymology, in his Cratylus, ſays, But how ſhall we reſolve, or to what ſhall we refer, thoſe words which are barbarian; as the word Πῦρ, for inſtance, which is Phrygian. We ſhall be all wrong if we reſolve this to Grecian elements. Πῦρ then ſignifying fire, is a barbarous word, or of the language of the race of men. Now, the language which has this word with the Π aſpirated, is the language of north of Europe, univerſally for Fuer in German; and Fir in Swediſh is fire.

We all know that the region which was vulgarly and by relative appellation called Theſſaly, was originally named Aimonia [Dionyſ. Halicarm, lib. I.] Now Θετ⁊αλια or Θατ⁊αλια, and Θεσσαλια, are the ſame; but T'uat'dale in the Celtic means, relatively ſpeaking, northern diſtrict. Will any one deny that Θατ⁊αλια and T'uat'alia are the ſame. So much for

for the language of men, in contradiſtinction to the language of the gods.

In like manner many of the names and appellatives given to the heroes acting at the ſiege of Ilium may be traced directly to their Celtic etymon.

Hector's ſon was called by a complimentary appellation in Hellenic, Ἀσύναξ, which Plato ſays is ſynonymous to that of Hector, to the meaning of which latter name, Homer almoſt always adds,

Οἷος γὰρ ἔρυτο Ἴλιον Ἕκτωρ —

or Οἷος γάρ σφιν ἔρυσο πόλας ἠ τείχεα μάκρα, who alone was the city's defence; or who alone was the defence of the curtain, as modern engineers would expreſs, τείχεα μάκρα. Ἔρυμαι is cuſtodio Protego, &c. and Ἔρυμα is munimentum, præſidium. In this ſenſe in general the word is always taken, and in particular is applied to military ideas, as for inſtance, θῶρακες are called in Xenophon's Cyri Pæd. ἐρύματα σωμάτων applied to the defences of a town, it expreſsly means a tower or turret (or that projecting defence called by modern engineers a baſtion). Thus Xenophon in his Hellenics mentions Ἔρυμα τειχίζουſες, and ταῖς πόλεσιν ἐρύμαθα περιβάλλονται; ſomewhere in Homer, but I do

do not juſt recollect where, it is ſaid Τοῖος σφῖν Πυργὸς απώλετο, &c. which is a metaphor direct to my analyſis. Plato, as above, ſpeaking of word Hector ſays, Δοκεῖ μοι τῦτο παραπλήσιον τι εἶναι τῷ Ἀσυάνακτι, ϗ ἔοικεν Ἑλληνικοῖς ταῦτα τὰ ὀνόματα ὁ γὰρ Ἀσυάναξ ϗ ὁ Ἕκτωρ ἡνδὸν τι ταῦτον σημαίνει βασιλικὰ ἀμφότερα εἶναι τὰ ὀνόματα ὥμως ταῦτον σημάνει. Scil. Ἀρκόπολις. The etymon of the name Aſtyanax is plain in the Hellenic language: But Plato, though he ſays that Hector means the ſame thing, does not attempt its etymology. He certainly thought it to be (as he ſays of the word Πῦρ) of barbarous original; had he underſtood the Celtic, the language of men, the etymology would have been equally plain to the idea of his commentary. Sciz. *Ach-Twr.* populi, ſeu tribuum, præſidium.

Paris is in the Hellenic language called Alexander, which is Præſidium Hominum. Priam from πριαμύνω protego.

——ὅς σφιν ἀμύνῳ
Ἦμαρ ἀναγκαῖον——

means the ſame thing; and comes from the ſame roots in the Celtic, and is of the ſame compound, Sciz. Bri, Primus Honor-dignitas, &c. and Amwn or Amwg to defend; and means in the compound the

the principal or ſupream defender. There is a peculiar coincidence in matter of fact with this notion, that is, that Priaf or Parif is the Welſh (or Celtic) pronunciation of Priam, ſo that we ſee theſe royal titles, though ſeemingly different words, have all the ſame meaning, and are, as Plato ſays, ſynonymous. Inſtead of uſing as we do George the firſt, George the ſecond, the third, and ſo on; the richneſs of their language enabled them to diſtinguiſh the perſons of the royal family, although having the ſame or ſynonymous βασιλικὰ ὀνόμαϛα, by differently expreſſed appellations.

The country or region, which was the ſcene of this deciſive war, is always called by its Celtic name. Tre-oïm, which ſignifies the habitation or ſettlements of the Oïm or Ovim, or Goujim and Magoujim, for ſo theſe people were called; αῖα or *ey*, ia or ea, are terminations, when added to a name, that means country. The etymon then ſtood thus, Tr'ò-ia.

Ilium ſignifies in the Hellenic language, the *holy dwelling*, or holy city, ἴερον πολιέθρον, and Ἴλιος ἴρη, or Ηλ—Ἴων, juſt as Beth-el, God's Temple. And the city is generally

generally called by it's Hellenic name Ἴλιος or Ἴλιον.

Τροίης ἱερὸν ἄστυ ἐϋδμήτοιο πολίεθρον—

It was ſaid to be built by Neptune, a great naval commander, *a god*; and to be ſacred to Ἥλιος, or Apollo: and from the concourſe of commercial people of different nations reſiding or trading here, it was deſcribed by Homer as Πόλις μερόπων ἀνθρώπων.

When I firſt wrote this, I had ſaid, that this city was *always* called by its Hellenick name, Ilios; but mentioning it to Mr. Bryant, he reminded me of two places in Homer, where the city is called *Troia* *, Τψίπυλος Τροίη. I do therefore, in tranſcribing this, uſe the expreſſion *generally*. Ruæus is of the ſame opinion as Mr. Bryant, that Ilium meant ſpecially the tower or citadel, while Troïa was the name of the city,

——ceciditque ſuperbum
Illium, et omnis humo fumat Neptunis Troja.

Per Illium, arx; per Trojam, urbs ſignificatur †.

But this diſtinction does not appear to me, to be well founded; the direct con-

* Lib. XVI. v. 689. and L. XXI. v. 544.
† Not. ad Virg. Lib. III. v. 3.

trary fact ſeems to reſult from the expreſſions uſed. However the city might on ſome occaſions, and by ſome ſpeakers, be called the city of Troja, as Τροίης πόλις, or Τρώων πόλις, as in the Odyſſey, Lib. IV. yet Ilion was the city, and ſo it was *generally* called, while the region was called Troja. Homer, (in Lib. XX. Iliad) ſpeaking of the origin of Ilion, ſays,

Δάρδανον ἂν πρῶτον τέκεθο νεφεληγερέτα Ζεύς;
Κτίσσε Δαρδανίην ἔπει οὔπω Ἴλιος ἦεν
Ἐν πεδίῳ πεπίλιθο, πόλις μερόπων ἀνθρώπων.

Here Ilion is expreſſly called the city, inhabited by men of various languages. The capital of Troy, before the building of Ilios, was up in the highlands near mount Idæ; but Ilios, built as a commercial city, was built in the plain; κατῳκίσθη δὴ, φάμεν ἐκ τῶν ὑψηλῶν εἰς μέγα καὶ καλὸν πεδίον, Ἰλιον ἐπὶ λόφον τινὰ οὐκ ὑψηλὸν. (Plato de Legibus, Lib. III.) In the ſame book, a little further on, he expreſſly diſtinguiſhes the region Troja from the city Ilion by their ſpecific names. Of the region, he ſays, Τροίαν ἀνάσαλον ἐποίησαν, δεκαέτη πω μείναντες. They kept the region Troja under a ſtate of devaſtation for ten years together: but of Ilion he ſays, τὸ Ἴλιον ἐπολιορκεῖτο; the city was blockaded. Herodotus alſo (Lib. I. § 5.) calls the taking

taking of the city ἡ Ἰλίε ἅλωσις, and plainly ſpecifies the city Ilium to be diſtinct from the country (Lib. II. § 118.), where he ſays - - - ἐλθεῖν μὲν γὰρ ἐς τὴν Τευχρίδα τὴν Ἑλλήνην Στρατιὴν· ἐκβάσαν δὲ ἐς γῆν καὶ ἱδρυθεῖσαν τὴν ςρατιὴν, πέμπειν ἐς τὸ Ἴλιον Ἀγγέλυς. That Ilium did not mean the citadel is as clear as language and deſcription of circumſtances can make any thing ſo *. Hector is ſaid to have taken his poſition Ἰλίε προπάροιθε. If the city had been taken, and the citadel was ſtill defended by Hector, this would have been proper; but he ſtood before the city. The great riches of the populous city Ilium are ſpoken of

—— ὅσ' ὅσα φασὶν
Ἴλιον ἐκτήσθαι εὐναιόμενον πολίεθρον ——

This expreſſion is proper for a great city, but not for a citadel.

But to proceed with further inſtances of *this language of men* ſpoken in theſe parts. The Pelaſgic Temple, built amongſt theſe ſylvan inhabitants of Epirus, was called by the people, amongſt whom it was built, the Oracle Dodona, which in Welch is literally *Duwdewin*, God's Oracle. The prieſts were called

* Lib. XV. v. 66.

Selloi. Now *Sellwr* is in Welch one that ſeeth things at a diſtance. Calidonia, Calddun, Duncald, Gwaltdun, The Wolds, or wooded hills, is a name found in every part of Europe, from eaſt to weſt; and it is remarkable, that in the weſternmoſt point of England, and in the mountains of Cilicia, there ſhould have been two caſtles of the ſame name, Pendennis; that in Cornwall now exiſts; that in Cilicia is mentioned by Cicero. I mention theſe things, not as facts eſtabliſhing proof, but as inſtances of the uſe of reaſoning from the agnation of languages. And may we not here venture to ſuggeſt, without being liable to the imputation of whim, that as far as it appears from theſe words, ſpecified as peculiar to the language of the people, which are now found living, the Celtic language was the language of thoſe ſylvan people, then called Coilte, Coïtæ, Κετέες, Gualtæ, or Gallatæ, meaning Woldſmen, and afterwards in the weſt of Europe called Celtæ and Galli? There are many arguments which ariſe from geography and hiſtory, which ſupport this idea.

Reaſoning on the ſame principles, and by the ſame etymological deduction, may I not acknowledge an agnation, to a certain

tain degree, between the language of the Indians of North America and that of the Tartars of the north-eaſtern parts of Aſia, when I find them uſing the ſame kind of prefixes and affixes in compound, to deſcribe the relatives and circumſtances of perſons, places, and things; when I find the one and the other uſing the ſame or ſimilar appellatives, in many caſes the ſame words, and in the numerals ſome words too ſimilar, and too ſimilarly following in their ſeries to be, imputed to accident? May I not impute this coincidence to ſome agnation in the language of theſe different people? But when I view them both of the ſame copper-coloured tint, both having the ſame texture of hair, both of the ſame model of ſcull, I cannot even doubt of the agnation in the race alſo.

Both the Tartars and Indians, when they mean to ſpeak of a people as to their tribe or nation, compound their name with the word ach, ack, acha, or aga, which people of different countries and climates, from an almoſt impoſſibility of ſounding the guttural exactly alike by organs of a different texture, pronounce very differently; ſome ſounding it ax, others aga, agua, others aks, iki. When the Europeans endeavour to pronounce or write the Tar-

tar names of their tribes, they ſpell them, Oſti-ack, Budzi-acki, Coſſ-ack, and Croſs-aqui, Carakelp-iki, Calm-ucks, Com-uks, Perm-iki, &c. The European interpreters in America (generally pedling traders, very illiterate and ignorant) when they attempt to expreſs the Indian pronunciation either in ſpeech or writing, make alſo various terminations of the ſame word. 'Saki, Siſſis-aki, Meſſis agaes, Sen-aga, or Sen-aké, Ononda'-agaes, Cayug'-agaes, Cany-ung'-agaes, Aban-aquis, Aban-ikis, Cherekees, or Chara-agaes, which the Spaniards pronounce Cheri-aguas. What in copying the Tartar word is written, Sayoth a hunter in Europe, is by the French in North America written Sieux. I muſt obſerve *en paſſant*, that ach in Welch and Iriſh ſignifies tribe, race, or people.

* Ski written variouſly, as ſkoi and ſkoia, ſki and ſkie, ſkaia and ſkaja, when affixed at the end of a Tartar word, ſignifies the area or diſtrict ſo called. To quote examples of this would be endleſs; the reader needs only to throw his eye on any map of Siberia or Tartary: ſki in the Indian language variouſly pronounced, and written by our interpreters, as ſkey, ſkeag, ſkaid, ſcot, ſcut, affixed to ends of words, has

* Thus *Sky* in Engliſh does not mean the firmament, the heavens; but the expanſe—the celeſtial horizon.

the

the ſame meaning; multitude of inſtances of which the reader will find in any map of North America.

The Tartars, originally call Oiim, Ojim, Ouim, Gojem; Tjeudæ, Tjeutæ, uſe particles of words, which, prefixed to the names of places and people, ſignify relative poſitions, as, *on this ſide*, or *on the other ſide*, *over*, *beyond*, alſo a particle which ſeems to ſignify *under*, or *below*. Theſe particles are ma, mai, maje, or maeſt; es or eſk; and ja; as Ma-gougi, Igougi, and Ia-gougi, Schin, Maeichin, Zchin, Scheudi, Ja-dſceudi, and Ma-dſcudi. The Indians of North America have the ſame prefixes, with this obſervable circumſtance, that in pronouncing the es or eſk, they accompany the enunciation with the motion of the hand from them; in enouncing the mai, with a motion towards them. Whether the Tartars aid their ſpeech in like manner with action I know not. To give one or two inſtances rather as explanation than proof, we have ſeen above that ack, aks, aqui, or aga, means in the Indian language, tribe or race. Now, the Indians, by adding 'sk, 's, and ma to this word, expreſs the remote or hither tribes; 'ſ-aks means the firſt, and maſſaſaki the ſecond; both which relative appellations are found

amongſt the Weſtern Indians. Oghneghta is a pine-tree, Oghneght'ada is a country of pine-wood, 'Sk-oghneght'ada is the country beyond, or on the other ſide of the pine-wood; hence comes the name of the town on the Mohawks river in New York, called Shenectady; but to mark the power of this affixed particle the ſtronger, it is to be obſerved, that when an Indian at Skenectady ſpeaks of Albany, he calls Albany 'Skoghneght'ada. Caniaderi is a lake, Caniaderi-ada is the country of Lakes, 'Scaniad-eri-ada is the region beyond the country of Lakes. Watchuſet, or Watſhuſed, is a great mountain, ſo called, in New England. The country next the ſea, when the firſt ſettlers ſought the name of it, was called Maeſtchuſed, Maeſ-tchuſet, Maſſatchuſet. The names of that tribe of the five nation Indians, who are by Engliſh and Dutch in New England and New York called Mahawk and Maquas, is Can-yongwe-aga, *the people who are at the head of men*; but the appellative given to them by the River and New England Indians, was Ma-aga or Ma-aqua, and Ma-ach', which ſignifies the hithermoſt tribe, or that tribe of the Five Nations which was neareſt to them; and in the like manner, the tribe whoſe actual appellative was Tſononteouana-aga, ſignifying

nifying the tribe which lives on, or over, the great high mountain, or on the height of the land, called by the French Tſonontuans, and by the Engliſh and Dutch vulgarly Senekaes, is ſo called by the relative appellative 'Sen-agaes, or the furthermoſt tribe.

In like manner, conſidering the indefined impreſſion which the ſounds by which the name of the Tartars were originally expreſſed, and the vague uſe made of the elementary characters by thoſe who firſt wrote them, Oïm, Ojim, Ogim, Ovim, Goigim, Tjeudim, or Tjeudæ, and Tjeutæ. I ſee the very Tartar name in the word Tjetæ, Tjeutæ. To this applying the prefixed particles exactly and preciſely as before, I find the 'Stjeuthæ, Mais-Tjeuthæ, the Scythæ, and Maſſagetæ, the *yonder* and the *hither* Getæ, Goethæ, or Jeuts. And to go one ſtep further in this explanation, when I find the Getæ written by the Greeks Κετίειϛ, and by the Hebrews, Chittim, or Chedim; and then ſee the name of the people of Mecedonia, written Μακετϛειϛ; I do not heſitate to analyſe this word Ma-chedim, or Ma-cedom, the *hither* Chedim or Chittim. There is another very ſingular circumſtance of ſimilarity between the names of

of the numerals of the Weſtern Indians of North America, the Chipoûaes, and thoſe of the Northern Tartars of Kamſchatſki.

	Indian	*Tartar*
One	Peſkick	Innen
Two	Neech	Neach
Three	Nizoûy	Nioch
Four	Ni-annin	Nizach

The ſingular circumſtance, which ſtrikes me, is, that of the unit ſeeming in both to belong to a different ſeries from thoſe of the two, three, and four, and in both changing to words beginning with Ni or Nee, inſtances which I deſire may be underſtood to be adduced as examples or illuſtrations, not proofs. I think the uſe that the truly Analytick etymology (not the Synthetick one taught to ſchool-boys) may be of to the philoſophick Antiquary, will evidently appear. I have preſumed to point out the nature of the reſolution and compoſition by which this analyſis ſhould proceed, as depending on an experimental knowledge of the efforts and operations of the organs of ſpeech, articulating the elements of words according to the internal conſtitution or external circumſtances by which they are affected in different countries and climates, and at different periods of

of civilization. I have alſo preſumed to ſuggeſt an idea of a method by which this truly analytick etymology may be conducted to general purpoſes of knowledge, by ſuch a *comparative polyglott* of the terms and names of things in different nations, as ſhall anſwer to the purpoſes of that great deſideratum, an *univerſal language of philoſophy*.

Another, and indeed the next branch in the analyſis of the philoſophic Antiquary goes into the inquiry after the various methods by which men in the early periods of their civilization, aimed to fix the fleeting expreſſions of ſpeech in permanent palpable ſymbols, that ſhould remain under the eye. This reſearch will ſhew, that the firſt efforts which men have made in all countries to mark for diſtant places and times, the inviſible tranſient expreſſion of ideas which ſpeech gives at the preſent time and place, have been exerted by making general *portraits of the ideas*, not by *detailed characters of the elements of ſpeech, compounded into pictures of words*.

The writing of all people in their firſt efforts has been invariably a picture repreſentation of Time; of the ſeaſons; of concomi-

concomitant circumſtances of the ſeaſons, expreſſed by various pictures of the ſun, moon, and ſtars, of birds of paſſage, of the animals peculiarly attendant on times of inundation, or drought; by various plants; and by many other objects. When they endeavoured to fix a record of perſons, things, and actions, exhibiting to the corporeal eye pictureſque alluſions to thoſe conceptions, which could be ſeen only by the mind's eye; they then ſimply and naturally tranſlated and *drew in pictures the metaphors* and ſymbolick characters, which in their language, they uſed to expreſs their ideas by. Actions they expreſſed by the inſtruments uſed in exerting thoſe actions: And the temper or deſigns of thoſe actions, or actors, by pictures of animals, in whom decidedly this or that temper was ſuppoſed to predominate.

I proceed no further here in this reſearch; as I have in a tract expreſſly written to explain the origin, nature, and interpretation, of picture-writing *, and hereunto annexed, gone into a full examination of it. I will therefore beg leave to refer the ſociety to that tract, and will

* Appendix, No. II.

pro-

proceed to explain the uſe which I think may be derived from thus conſidering the picture-writings of the ancients, commonly called Hieroglyphicks. It appears to me, that if the Antiquary would hope to collect any information from theſe ancient inſcriptions, he ſhould, inſtead of ſearching amongſt the Stoicks, the latter Platoniſts, and the Triſmegiſtic Philoſophers, for myſtical allegories, and divine romances, endeavour to collect all the collateral accounts which are any where to be met with of the civil and natural hiſtory of thoſe countries, where any of thoſe picture-writings do remain; as alſo (if it were poſſible to find ſuch) to ſearch out the gradations of the ſeveral ſtages of the community in its civilization; the progreſs of the clearing and cultivating the land, and particularly the ſtate of its cultivation and produce; the inſtruments of huſbandry, the machines and tools of the arts; the weapons of their military, and navy, the enſigns of office; their mode of numeration, weight and meaſure; their opinions, external forms, and ceremonies of religion, with utenſils and inſtruments uſed in their rites; and where it is poſſible the turn and phraſe of their language. If the Antiquary could obtain any actual information

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in theſe particulars, and ſhould then go to the reading this picture writing, without any previous prejudice or impreſſion of their containing abſtruſe and myſtick doctrines, he would moſt likely find theſe inſcriptions to be plain and ſober records of the hiſtory of the country or people; or regiſters of the ſtate of it, or regulations reſpecting it; or memorials dedicated to the honour of ſome king, containing the ſtate of his adminiſtration, and the hiſtory of his actions, thus held forth to the admiration of the people *in the vulgate picture-writing*; or rolls of the public revenues, and payments to be made ſet down in numbers, weight, and meaſure. Kircher, and all the Triſmegiſtick doctors, down from Jamblichus, copying the whimſies or deſigned perverſions of the Platoniſts, have not only made ſuch unintelligible ſtuff of theſe inſcriptions as nobody ever could be, or ever was, ſatisfied with; but have created even a deſpair in the learned of ever finding out any interpretation at all, if theſe inſcriptions are to be ſtill viewed as the images of an intellectual ſyſtem of incomprehenſible myſteries. As theſe learned romancers have had their full ſcope of experiments, which have ended in the abortion of phantom, if men will at length venture to think

think for themſelves on facts as they come before them; they will find that all this contemptible ſtuff, about which ſo many bulky books have been made, began with the philoſophers who wiſhed to throw *a veil of Phyſiology* over mere fables, which ſuperſtition had ſanctified; and hath been derived down from them, and from no where elſe.

That the Egyptians had in their picture-writings ſymbols by which to expreſs their ideas of the Supreme Being, and of the various manifeſtations of his Providence, is certain, as well as thoſe of any other idea; and the images and idols of thoſe ideas led both to the *groſs and the myſtick idolatry*, and were perhaps in Ægypt the cauſe of it: but that all their inſcriptions were ſacred, and cabaliſtick ſcripture of their religion, and nothing elſe, was an *After-thought* of later philoſophers, in order to cover the groſſneſs of their idolatry by a veil of phyſiology.

One inſtance will, as I think, who venture to think for myſelf, be ſufficient to the purpoſe. Let any man of ſenſe and learning read Kircher's interpretations of the Obeliſk which he calls the Pamphylian Obeliſk, and be willing to believe all that

Kircher

Kircher makes out. I will defy any ſuch man, unleſs he be predetermined, to reſt ſatisfied, or to think he has learnt any thing, even one ſimple idea, from all that is thus interpreted. But even if he ſhould affect, becauſe he would be thought learned, and in the ſecret, to ſay that he is much informed, and has acquired knowledge from what is interpreted; I ſhould then hope to be taught from ſuch learning and knowledge what all thoſe elementary characters and lineal diagrams mean to expreſs, which Kircher has paſſed by unnoticed, as though making no part of the inſcriber's intention. If none of theſe learned men can ſatisfy me, as I know none that can, or that hath attempted it; and if I then look upon theſe inſcriptions, and compare the figures and diagrams with things ſimilar, which have been in uſe amongſt men in other parts of the world; I ſee clearly in ſome parts, elements or letters; I ſee numerals, and combined numeration; I ſee meaſures of weight, capacity, and extenſion; and I ſee theſe numbers applied to the numbering thoſe meaſures, and ſee them variouſly combined, and repeatedly occuring in theſe combinations. When with theſe ideas I view at the top of the obeliſk the enthroned figure ſitting and receiving

receiving the offerings from perſons appearing to be of the different claſſes of ſubjects ; as prieſts, ſoldiers, &c. I cannot conſider the whole of this Obeliſk other than a mere regiſter, or record, of the nature, force, revenues, and regulations of the king there, in his ſeveral capacities, repreſented on the ſeveral ſides of it. I cannot but ſee that each ſide reſpects each reſpective order or claſs of the ſubjects of the kingdom. When I look to the undoubted and decided ſymbol of the ſupreme, eternal, univerſal, intellectual, firſt cauſe, at the top of the Obeliſk, over his head, and view this king and his ſubjects, by one ſuperſcribed and comprehending line, collected into one group, or as one object under the providential care or influence of this firſt cauſe, I cannot but conſider this record and regiſter as meaning to give and to hold forth the moſt eſſential true principle of all juſt and right government, as ſubſiſting under God and his Providence. And when I ſee the ſymbol of the vivifying Spirit of this material world, attendant on a crowned hawk, at the head of the record or regiſter, I cannot but remark how decidedly this marks the derivation of this animating ſpirit into the actual exerciſe of the government itſelf, of which the following in-

ſcription is the record. In order to give my idea of theſe characters and diagrams, which I ſuppoſe to be, ſome of them *elements or letters*; others to be *numerals*; and by their combinations *various numerations*; alſo of the others, which I ſuppoſe to be *meaſures of weight, capacity, and extenſion*, which alſo are variouſly combined, and which alſo, together with the numerals, form again various combinations; I beg leave to refer to the drawings which I have annexed to the Treatiſe, N° II. of the Appendix. As I have made ſo free with the interpretation given by others, and even with thoſe of learned men, I do with the ſame freedom acknowledge, that I give this of mine as a mere experimental eſſay in the application of the principles above ſtated, and not as a matter either proved, or capable of proof: fully however as capable of proof, as any of the old adopted interpretations; capable of proof * by analogy to ſimilar things actually exiſting, and not from the afterthoughts of myſtic prieſts and philoſophers making comments of perverſion, not interpretation. I find myſelf however, ſupported in my manner of interpretation by the ſimilar interpretation which Herma-

* Vide N° II. Appendix.

pion

pion (as quoted by Ammianus Marcellinus) gave of the Obeliſk in the great Circus. There is on each ſide, or face of this Obeliſk, a mitred perſon, ſitting on a throne, with a perſon of inferior ſubject-rank kneeling before him, and ſtretching forth his hands, as in the action of offering. And Hermapion begins his interpretation juſt as I have done.

Τά δε ἐϛὶν ἃ βασιλεῖ Ῥαμέϛῃ δεδωρήμεθα.

The things here inſcribed are what we have given to the king Rameſtes, &c.

As the language of men in the firſt gradations of their civilization is all metaphor and ſimile, and the writing of the ſame, in their progreſſive advances, is all picture and painting; ſo the memorials and hiſtory of thoſe times muſt of courſe be mere allegory and fable. If now the unprejudiced Antiquary will here conſider things to be as what they actually are, and muſt have been; if he will conduct his reſearch into the interpretation of the *Ancient* fabulous hiſtory, as originally, and ſimply the pictures of a rude people; he may arrive at very diſtinct accounts of the firſt ages of civilization; of the eſtabliſhment of government; of the progreſs of Commerce; of the ſettlement of colonies, and

of the cauſes and effects of piracies and wars. I mean to be underſtood as ſpeaking here of the accounts of the ſcite and circumſtances of the people; of the ſpirit and nature of the times; and of the various revolutions amongſt mankind in theſe their firſt progreſſions, although perhaps not of the actual perſons and actors in this drama, which by the bye is of very little uſe, except to aid and fix the memory.

Hiſtory hath been compared to a great ſhip floating down the tide of Time, fraught and replete with the precious cargo of knowledge; but if this repreſentation of hiſtory be true, and if ever ſuch a ſhip was ſo freighted, unhappily it hath never reached theſe our ports. The veſſel has ſuffered ſhipwreck; and the valuable ſtores, which it is ſaid to have contained, are ſunk and overwhelmed under the waves of deep oblivion. Some fragments of its bill of lading have come to hand; ſome parts of the drifted wreck have by the tide been thrown upon our coaſts; ſome buoyant parcels of the cargo have been found floating on the ſurface; and ſome even valuable articles have been fiſhed up out of the wreck: but none ſufficient as yet, to give a clear and preciſe

idea

idea of the veſſel which was freighted for us; nor of the cargo which was meant to have ſupplied the wants of this knowledge. Here then the ſtudies and reſearches of the Antiquary come in aid; it is his office to collect all the fragments he can find drifted on the wide ocean; to dive for, and to fiſh up from the wreck, every thing that can be recovered: And finally, when that can be done, to aſſort all theſe together by various repeated experiments, led on by what their matter and forms promiſe, ſo as to form ſome theory at leaſt of the ſyſtem of which they were parts. If he be but a ſuperficial, or a haſty theoriſt, he will moſt likely be miſtaken; yet the correction of his miſtakes may lead to better knowledge. If future diſcoveries evince, that even thoſe conjectures which were formed under the moſt patient and philoſophick temper of inveſtigation, are wrong; the correction of the error will at leaſt have been a ſtep in the gradation up to knowledge. It is by theſe collections of the multitudes of parts and parcels; and by the thouſand varied experiments in aſſorting them; that the ſtudy of Antiquities is in a gradual, although perhaps ſlow approximation to knowledge. To make cumbrous collections of numberleſs particulars, merely becauſe they are frag-

ments; and to admire them merely as they are antique; is not the ſpirit of antient learning, but the mere doating of ſuperannuation. It is not the true religious ſtudy of antiquities, but a devotion for relicks: It may make us enthuſiaſts, fanatic triflers, or dupes, but can never adminiſter real and ſober knowledge to our underſtanding. Great and meritorious pains are taken to collect every ſpecimen of antiquity which ariſes by the evacuation of the ruined Herculaneum and Pompeii. When the true ſpirit of the Antiquary preſides over theſe works, the reſearches are conducted by ſyſtems that lead to knowledge; when that is abſent, the true vulgar idea of making *Collections of Antiquities* leads to examples of genuine abſurdity, like the following, which I was told as a fact *. In the courſe of their works the labourers met with an inſcription, the letters of which were braſs fixed in marble; theſe brazen letters they carefully picked out of the marble, put them into a baſket, and in that ſtate they remain depoſited in the king's library, as examples of curious antiquity, in hopeful expectation of the return of ſome Sibyl, who, reſtoring the

* I do not make myſelf anſwerable for the fact, but refer to the ſtory as an illuſtration of that ridiculous ſearch into antiquities which I mean to reprobate.

letters,

letters, like her diſſipated leaves, to their order, *may* give the ſenſe of the inſcription, which was forgotten to be noticed at the firſt diſcovery. Should the wreck of an ancient ſhip ever be diſcovered, a collection of a multitude of its timbers, knees, ribs, beams, ſtandards, fragments of maſts and yards, bolts, planks, and blocks, would be *une choſe à voire*, and would make the learned as well as the unlearned ſtare and wonder: but the eye of knowledge would find no reſt nor ſatisfaction there. Where the truly learned Antiquary (by an analyſis of the firſt principles of naval architecture, and by tracing theſe principles in all poſſible combinations which the materials admit of) attempts various experiments of combining theſe fragments into ſome form, which, as parts, correſpond to ſome whole * — there ariſes the true ſpirit of antiquarian learning; there begins genuine and uſeful knowledge. It was in this genuine temper of experimental reaſoning, that the ſpirit and genius of the Romans, analyſing the principles of naval architecture, and combining the fragments of a wrecked galley caſt upon their ſhore,

* Vide below the example given from general Melville's learning and ſcience on this very point.

commenced with ſuch ſucceſs and glory their naval power. As of the example in fact, which the reaſoning on the foregoing metaphor had led us to; ſo by the like analyſis, and combination, may the remains of every branch of antiquity be reſtored, at leaſt to ſome ſemblance of its original.

Man is a being finite and circumſcribed in his *natural wants* and deſires, and in his powers, which are however always proportionable to the ſupply of theſe wants. View him in the various progreſſions and revolutions of his being, through the continued encreaſing ſeries of his *artificial wants*, and of his *improved reſources*; ſtill his ſcite and circumſtances mark the firſt, and the limitation of his powers make not the enquiry after the ſecond a boundleſs purſuit. Thoſe, who in different ages have reviewed this being in different regions, under different habits and modes of life, know how little he is able to vary, how little to expand his powers. Being the ſame kind of hunter, or herdſman in ſylvan life, through all ages and countries of the like circumſtances; he becomes, when he quits that life, the ſame kind of landworker; the ſame kind of ſubject of ſociety; the ſame warrior; in every

age

age and region under the like circumſtances. Could we have a veſtiary of all the cloaths of every country, in all periods of its cultivation, we might at firſt be ſtruck with the variety of appearances; but a ſerious attention would find little difference in all this variety of forms, except what heat or cold, wet or dry, called forth. Whenever we have been able to compare the domeſtic utenſils and inſtruments which real uſe hath given invention to, how little do they vary! They are almoſt the ſame with every kind of people. However much the warrior has endeavoured to add terror to his force, in the invention of new ways of murdering, yet how little hath he been able to vary theſe inventions! The inſtruments of war, as of like uſe in like hands, are ſimilar, and ſcarcely varied, in any the moſt differing nations. Nay, where vanity has grown wild in fancy, and racked invention to produce a motley frippery of ornament, the ornaments of all nations, from the ſavage to the moſt refined, are much the ſame *.

* See the various ſpecimens of utenſils, habits, weapons, &c. of ſavages, in Sir Aſhton Lever's Muſæum; and compare thoſe in the light of uſe and in their eſſential circumſtances, with the higheſt refinements of the moſt civilized nations, and you will find that they ſcarcely differ.

It is from principles which conduct this reaſoning that I venture to deduce the following theorems. That even where hiſtory has ſuffered ſhipwreck, as the alluſion above deſcribes, and where only a few reliques and fragments, buoyed up in *fables and mythology*, have come down to our age; yet where thoſe fragments mark the particular ſtate in the progreſs of human life which they refer to, I ſay, reaſoning from the analogous ſimilarity of man, much more even of hiſtorick deſcription of that ſtate can be formed from theſe broken deformed materials, than the firſt ſuperficial glance of undiſcerning literature would imagine. What can be the events of the ſylvan life, whether it is carried on by clans of hunters, or hordes of herdſmen? The firſt may make war upon the beaſts of the foreſt, or quarrel with their neighbour hunters about their game or their hunt. The ſecond may endeavour to drive the beaſts of prey from their *quarters*, or quarrel with like herdſmen about paſture and water, or about their cattle, which have ſtrayed, or have been ſtolen. This is but a ſingle drama, and has been acted over and over a thouſand times,

in

in different periods and regions of the world. The firſt will war, as they have been uſed to hunt, by covert ſtratagem, to utter extirpation. The ſecond will, by open force, attempt to drive their enemies, as they have been uſed to drive their herds, but their war will end in negotiation and ſettlement. This we have known, and do know, to be the caſe, wherever we have been able to trace the hiſtory of any ſuch nation, in ſuch ſtated progreſs of its being. If therefore any fragments and relicks of antiquity point to this period in the progreſſion of human life, we cannot be much at a loſs how to recompoſe theſe into the ſyſtem, of which they are parts. If in very antient books, as thoſe of Heſiod, Homer, and Herodotus, we read actual portrayed deſcriptions of this life; if we trace, although in fables, draughts of the hiſtory of ſmall companies of wandering hunters and navigators, carrying all the lineaments of that portait, we cannot be totally without a line, by which to finiſh the imperfect ſketch from point to point, as the ſcatrered fragments lead. By a careful analyſis therefore of human nature, and by a combination from analogy of ſuch broken accounts as the ſhipwreck of hiſtory affords; a deſcription,

I had

I had almoſt ſaid an hiſtoric deſcription, of that firſt, original ſtate of the human life, which we inſolently call ſavage, and even many footſtep traces of their motions and actions, to all the purpoſes of uſeful knowledge, may, by the truly philoſophic Antiquary, be obtained. If we read in never ſuch obſcure fragments, and but in fables, accounts of man quitting his woods, and beginning to till the earth, cleared of its original vegetation; if we read of the individual thus become *a fixt Being*, and, by intercommunion of mutual wants, *coaleſcing into Society*; and of that ſociety, by the progreſs of human nature, forming into an organized body; a very few traces of that proceſs will lead to a juſt idea of the whole operation.

Knowing from fact how thinly ſcattered through the woods and wilderneſs the individuals of the ſylvan life always are and muſt be: with what ſuperabundant population the firſt fructuation of an advancing ſociety is loaded; and that the ſurplus parts of this plethoric body always have and muſt emigrate, going into the borders of and amongſt the rude inhabitants of the yet uncultured world; ſometimes

as

as armies, ſometimes as merchants, ſometimes as colonizing ſettlers; knowing, I ſay, this to have been in fact the invariable hiſtory, and the repeated drama of the early ſtages of life, we can be at no loſs to underſtand, although it is recorded by pictures, and told in fables, the commencement of hiſtory in the fabulous ages, at the commencement of civilization in the countries bordering on the Mediterranean and Euxine Seas. Theſe fables repreſent gods and heroes as going forth from ſettled civilized ſtates, to travel about the ſylvan world, either with armies as deſtroyers, or with colonies as benefactors of mankind; in one caſe, reducing the poor aborigines to ſlaves; aſſuming to be of a ſuperior race of beings; calling themſelves gods, and becoming real tyrants: in the other, like the Supreme Being himſelf, inſtructing them in all the arts of cultured life, and communicating the benefits of it to them; the culture of bread-corn, of the grape, of the olive, of the propagation of the fruits, legumes, and eſculent roots, of the earth; the propagation and nature, the life and ſervice, of the domiciliated animals; the communion of ſociety, the protection of government. Although this is told in allegories

legories and fables, although the foppery of the learned working upon the homely tiſſue of thoſe early ages may have embroidered it with ſyſtems of *mythology*, and finally of *phyſiology*; yet whoever gives unprejudiced attention to, and views with untainted eye, the facts which form the *fond* of theſe fables, and compares them, in the true ſpirit of analogy, with the accuſtomed and known courſe of the human ſyſtem, may draw a very ſtrong likeneſs, if not an actual portrait, of the hiſtory itſelf.

When I read of the *firſt voyages* into the Ægean, Euxine, and Mediterranean Seas, made by the various adventurers who were afterwards, although perhaps of different nations, certainly living in very diſtant periods, tied up together in that hiſtoric bundle, called the Argos, canonized as a ſign in the heavens, and who were called Argonauts; whether that fable be meant to deſcribe the progreſſive voyages of a nation (as Mr. Bryant ſuppoſes), or whether the actions of a particular band, or a ſeries of adventurers; whether the perſonages there characteriſed were Greeks, or (as I rather believe) Egyptians, or Syrians, makes no difference; when

when I read this, and compare it with the voyage of Columbus and other Adventurers to the New World, I am at no loſs to underſtand the nature of the adventures, as well as of many parts of it. When I read, although in fables, of the Egyptians, Edomites, and Tyrians, *ſettling* on the coaſts, and in the iſlands of the Ægean Sea, and of their paſſing the Boſphorus, and forming various ſettlements in the Euxine Sea, particularly their great ſettlement at Colchis; when I read this, and compare it with the voyages, adventures, and ſettlements of the Portugueſe in Aſia, and then purſue the uſe of all this by a detail of their trade, I am at no more loſs to comprehend the former, though told in fables of golden fleeces and golden apples, than of the latter, delivered in ſober hiſtoric journals. When I read of the travels and conqueſts of Oſiris, Bacchus, Seſoſtris, &c. and the various Hercules, and ſuch like perſonified characters, and compare this with ſimilar travels, voyages, adventures, and conqueſt, of Cortes, Pizarro, and other Spaniards, how is it poſſible not to ſee the real hiſtory through the veil of metaphors and allegories, which have transformed it into Fable?

When

When I read of a ſet of foreign adventurers making ſettlements in the iſlands, and on the coaſts of the Ægean; of ſettlers coming from ſome country advanced in civilization to a country wherein the inhabitants ſtill lived the ſylvan and paſtoral life: when I read of theſe calling themſelves *gods*, *children of the ſun*, or Hellênoi, taking the lead and government of *men*; when I find theſe gods and their ſons ſettled in different parts, in Phrygia on one ſide, and in Greece on the other (become in the courſe of their tranſactions different and rival powers with different intereſts) quarrelling with each other; when I read this, and compare it by analogy of facts, which we know have actually happened; with what the Spaniards amongſt themſelves, and the Europeans amongſt one another, have done in their ſettlements in the Eaſt and Weſt Indies; I am at no loſs in underſtanding the facts of the *War of the gods*, nor why Neptune, or rather Poſeidon, took the oppoſite ſide againſt Jupiter; he was at the head of a ſeparate intereſt, and had been ſuperſeded in his command of the Ægean by the nomination of Briareus * to that command.

* Iliad, B. I. ver. 405.

Ὃς

Ὅς ῥα παρὰ Κρονίωνι καθέζετο, κύδεϊ γαίων—

Neptune had built Ilium near the mouth of the Boſphorus, which might command the excluſive navigation of the Euxine, and ſupport his intereſt amongſt the northern people there; but he was deceived in the effect; he got a quarrel with the Trojans, and he loſt his intereſt and office at Jupiter's court: And had become the avowed enemy of Ilium, the building of which was his own plan and meaſure. In the next generation, when thoſe gods had left the earth, this Ilium became (as Carthage was to Rome) a rival object to Greece that muſt be deſtroyed; it was that which had robbed them of, and held them excluded from, their deareſt and moſt beneficial connections of commerce. The Greeks carried their point, and for ages after, eſpecially the Athenians, ſupported on this baſis of the commerce of the Euxine Sea, their government, riches, and power. The conſtant and invariable meaſure of the Athenians, to maintain a commanding (if not an excluſive) intereſt in theſe regions of this ſea, and the various attempts of other powers, Grecian as well as Aſiatic, to wreſt this from them, or at leaſt to ſhare it with them on equal terms, became the repeated occaſion, and

certainly the deciſive point of the future wars which they were engaged in.

A knowledge of the nature and extent of this Euxine commerce and navigation, adequate to its importance, and to the effects of its operation, is no where ſtated in ancient hiſtory; and yet information on this important point would prove the beſt comment and guide to the knowledge of ſome of the moſt intereſting parts of the Hiſtory of the Greeks and Aſiatics. There are many fragments and ſcattered parts of ſuch information, which lie detached; many other parts interwoven as mere circumſtances in affairs of another nature; many that might be fairly deduced; and many that would give and receive reciprocal illuſtration to and from matters they are connected with. Here opens a path of curious and intereſting reſearch to the learned philoſophick Antiquary. The hiſtory of antient commerce, written by Monſieur Huet, biſhop of Avranches, treats of this generally, and indeed but ſuperficially; but from what the very ingenious and learned, Mr. Clarke *, in his Treatiſe on the Roman,

* Rector of Buxted, and chancellor and reſidentiary of the church of Chicheſter. Printed for Bowyer, 1767.

Engliſh, and Saxon coins, has in part, and merely as a collateral argument, explained on this ſubject; He has not only ſhown the importance of it to the knowledge of Ancient Hiſtory, but has in great meaſure by his learning and knowledge ſupplied this intereſting Deſideratum. He has done ſo much, in ſo clear and diſtinct a line of demonſtration, that there is no one, who has read the few pages which he has written on this ſubject, but muſt wiſh that the ſame ingenuity, the ſame learning, the ſame knowledge, was engaged to write a ſpecial treatiſe on it; from the firſt Egyptian or Syrian trade and ſettlements, to the breaking up of it by the Roman arms; and the final deſtruction of it by the recoil of the deluge of northern people who overwhelmed all. Theſe regions, and theſe commercial ſettlements, were the *Chittim* of Sidon and Tyre; *the America* of the ancient commerce: the merchants carried thither all the ſame ſort of wrought goods and articles of improved civilization and manufactures as the Europeans carry now to America; and brought from thence, in the rough, lumber, eſpecially ſhip timber, peltry, furrs, wool, thread, yarn, corn in immenſe quantities, and ſlaves. One cannot but wiſh alſo, that Mr. Bryant would

employ his great talents, and literature, to a like explanation of the weſtern regions of the Mediterranean and Atlantick. This was early diſtinguiſhed by being called, in the triple diviſion of Saturn's empire, the diſtrict of Dis, or Pluto, the God of Riches. This was the other great commercial region of the Ancients, the Tarſhiſh of the Phœnicians and Tyre. No man has read more, or with more preciſion in the ancient accounts of theſe matters; no man is a better judge of them; and ſurely there is no literary or perhaps no practical uſeful point of knowledge to which his literary reſearches could be more beneficially directed. The principal exports from hence were ſilver, tin, and moſt other minerals and metals; timber, corn, oil, ſome butter, wax, pitch, and tar, ſaffron, the ocres, and wool. The people who ſettled and poſſeſſed theſe regions, employed a multitude of ſhipping: and ſettled many rich and flouriſhing colonies, as well many entrepôts, and out diſtant factories; and held all theſe ſettlements and this commerce as excluſive againſt all ſtrangers: I believe alſo it will be found, that many of their regular prieſts, the Magi or Gours, did (as the regulars of modern times and religions have done) ſettle miſſions amongſt the natives

natives in theſe moſt diſtant parts. The original Druids (however their ſucceſſors may have become corrupted) will, I am perſwaded, turn out to be thoſe very prieſts, eſtabliſhing juſt ſuch miſſions, on exactly the ſame principles, as the Jeſuits have done in Paraguay, under a like hierarchy.

When this ſubject comes once to be conſidered as the exertions and tranſactions of man (always the like being in like circumſtances), all the metamorphoſic fables of the Ancients turning policied and commercial people into horrid and ſavage monſters, will, like clouds before the ſun, diſpel and evaporate before the light of truth. We ſhall hear no more of a great and ſcientifick people employing the ſuperiority of their knowledge in catching men as their food; no more of beautiful accompliſhed women employing the magic of their charms to entrap men, to eat them; no more of a race of innocuous ſhepherds and goat-herds who expreſſly lived on milk and cheeſe, the produce of their flocks, being delighted with the veniſon of human fleſh. We ſhall ſee all theſe perverted and exaggerated traditions (paſſing from the accounts of the very interlopers and pirates, againſt whom

their laws were made and executed), explained from the plain ſimple ſtate of the *excluſive poſſeſſions and commerce*, which theſe people, as colonizing nations do at preſent, aſſumed and maintained: many of the ſtories, told as the cruelties of ſavages, will turn out to be the ſeverities and the rigid executions of the courts of juſtice, which theſe people erected at their maritime ſtations to try offences committed againſt this their eſtabliſhment; and to puniſh pirates, to whom they gave no quarter, as the common enemies of the communion of mankind; as wretches, ‘ * qui ſublatis commerciis, rapto fœdere ‘ generis humani, ſic maria bello, quaſi ‘ tempeſtate præcludunt.’ I could here, myſelf, prove (I think beyond contradiction) in ſome of the ſtrongeſt caſes, which ſeem to bear the hardeſt on theſe people, I mean in the caſe of the Cyclops, of Minos and Rhadamanthus, That although they ſuffered no ſtrangers to come within their ſettlements, and puniſhed all ſuch as they found interloping there; yet they made a diſtinction in the caſe, whether ſuch came with deſign to trade; or were driven thither by accident; and more eſpecially between theſe and direct pirates.

* L. Ann. Florus, Lib. III. c. 6.

This

This appears from the inquiſition taken by the Cyclops on Ulyſſes and his aſſociates *:

Ὦ ξεῖνοι, τίνες ἐσσέ; πόθεν πλεῖθ' ὕγρα κελεύθα;
Ἦτι κατα πρῆξιν; ἢ μαψιδίως ἄλληθε;
Οἱάτε Λῃϊγῆρες ὑπὲρ ἅλα τοί τ' ἀλόωνται
Ψύχας παρθέμενοι, κακὸν ἀλλοδαποῖσι φέρονλες;

Theſe diſtinctions in the caſe of the priſoners are here formed; and even, as will be ſeen afterwards, diſtinctions as grounds of mercy are ſuggeſted by this horrid, profane, blaſpheming ſavage Canabal, as he is called. Where, ſays he, have you ſtationed your naval armament that brought you here? is it on or beyond the borders of theſe regions, or is it within our precincts †?

Ἀλλά μοι εἶφ' ὅπη ἔσχες ἰὼν εὐεργέα νῆα;
Ἦ πῃ ἐπ' ἐσχατιῆς; ἢ χ σχεδόν; ὄφρα δαειῶ.

Could they have proved that they had not entered the precincts of his juriſdiction with armed force, he here ſeems to lay the ground for their acquittal: But if there was no diſtinction made in the caſe of ſtrangers found within their ſettlements, there is neither uſe nor common ſenſe in the queſtions aſked.

* Odyſſ. Lib. IX. † Ibid.

Although Minos was repreſented by thoſe ancient rovers and pirates as a man *, ἀπαιδευτὸς, χαλεπὸς, φαῦλος; and that he † was τυραννικὸς, βιαῖος καὶ δεσμόλογος, although Rhadamanthus, whom he appointed as judge in his courts, there held

——— *duriſſima regna,*

and was hard and ſevere, even to cruelty; yet Homer and Plato both bear teſtimony, that every thing which Divine Wiſdom, God-like Benevolence, and the cleareſt and pureſt Juſtice could give to man, was the character of Minos, the paſtor, protector, and governor of his people: and that the other was a wiſe and juſt judge:—and ſee from Thucydides the effect of theſe eſtabliſhments made by Minos ‡. "He "formed a navy, and cleared the ſea of "pirates; he expelled the robbers out of "the iſlands, and ſettled colonies of in-"duſtrious people in their room; ſo that "the ſeas were open and free to com-"merce, the people could *become ſettlers* "and dwell with ſafety; and became "rich and happy."

If this mode of inveſtigation and conſequent explanation of this ſubject be pur-

* Platonis Minos. † Strabonis, L. X.
‡ Lib. I.

ſued

ſued by ſuch analogy as compares man, his being, and actions (ſuch as we have actually known him to be) with what he may fairly be ſuppoſed to have been in thoſe times, although deformed and miſrepreſented in fables, even truths uſeful to mankind may be elicited out of them.

There are rules in the ſcience of optics, by which the lines of a picture may be ſo drawn, as that, although they give every point of that picture, the bearing of each point ſhall be ſo diſtracted, and the *tout-enſemble* be ſo deformed, as not to retain the leaſt ſemblance of the original draught; this deformed picture may however, be reformed to its original draught, by being ſeen in a mirrour peculiarly, by the ſame rules of ſcience, conſtructed to reflect back theſe lines, reduced to their proper *traites*, and theſe proportions to their juſt correſpondence. Juſt ſo (with alluſion to this mathematick fact) I conſider the hiſtoric fables, the pictures of the early ages of the world. The picture has been deformed in all its *traites* and proportions; but if the truly philoſophic Antiquary can by analogy, and fair compariſon of that Being which man always has been, find out the mode of the deformation, he will be at no loſs in applying the ſcientifick mir-

rour,

rour, by which this picture ſhall be *tanquam in ſpeculo*, reflected back, reformed in all its out-lines and relations, to all the purpoſes of uſeful experience, the only end of real and actual hiſtory.

We will next, leaving the *fabulous*, proceed to conſider the mode of the philoſophic Antiquary's reſearch into that period of hiſtory whereof (the materials being ſuppoſed to be intire, and the order and ſeries of the facts in ſome meaſure preſerved) the narrative is ſuppoſed to be the actual portrait of the things and times which it repreſents, and is therefore called and underſtood to be the *juſt and true hiſtory*. When I conſider that he, who writes profeſſedly to give ſuch information of the ſtate and actions of the human life and ſyſtem as ſhall enable us to form that knowlege of it, which is experience, ſhould not only tell us what has been done (as chronicles and regiſters do), but ſhould mark to us how the agent was able to do it, how it was done, and what was the effect: I ſay, when I conſider hiſtorical knowledge in this light, yet find that he who writes of ancient times, long paſſed, knows not often the *how*, and that he who writes of the living times, as they are paſſing, heeds not the *how*, but goes on

on as of courſe; I feel that I want ſomething more to raiſe my learning up to knowledge. The hiſtorian, either totally ignorant of, or living amidſt the ordinary movements, and under the conſtant and mechanick influence of the ſprings and principles, which, as things of courſe, operate on the human actions, does no more think it neceſſary, or even proper, to trace and mark the ſtate, organization, and proceſs of the community whoſe actions he is deſcribing, than he would think it neceſſary to give an analytic deſcription of his watch, in order by it to tell you what the hour of the day was; his office being to relate the operations of the machine, not the compoſition and reſolution of its powers. He ſuppoſes the knowledge of this to have been acquired in ſome other line of learning, or to lead to other purpoſes, or to be obvious in every courſe, and open to every eye. While we ſee palpably the organization of the community, the particular ſtate of its proceſs; ſo long as we feel the impulſe of the principles by which it is influenced; and are either actually or ſcientifically mixed in with the circumſtances amidſt which it operates; ſo far the narrative may be perfectly intelligible: but it may ſo happen, that the hiſtory of the facts may remain,

when

when the principles ſhall have ceaſed to operate; when the particular ſtate of wants which called forth thoſe reſources, from whence particular powers, acts, and rights, are derived, ſhall no longer urge their demands; when the manners and cuſtoms have died away, and are utterly forgotten: The hiſtory then, without that comment, which the living manners and active drama give, ſhall become uſeleſs, and unintelligible. The actions and operations, appearing ungrounded, ſhall become inapplicable; and the moſt uſeful arts and beſt exerted powers ſeem a wanton waſte of caprice. I dare ſay every one who reads can here recollect many things, many actions, many operations, which appear ſo to him, which yet could not have been ſo. Here then the Antiquary becomes that Interpreter by whom hiſtory is rendered intelligible; becomes that Commentator by whom alone it can be conducted to uſe and practical knowledge. The Antiquary ſets before our eyes, and puts into our hands, in a way that the hiſtorian does not, every component part and whole frame of the acting ſyſtem. He makes his reader live as it were in the times, and through the ſcenes he deſcribes: *Animum in ſcribendo*

ad

ad præterita retrahere, et veluti antiquum facere magni utique laboris et judicii eſt *.

The Antiquary will ſo deſcribe the community, whoſe acts are the ſubject of hiſtory, in the ſcite and circumſtances of the country which it inhabits, in its mode of poſſeſſing, and in its manner of living on it; he will give a detail of its wants, and of its reſources, both in nature and art; he will ſo deſcribe the component and acting parts, ſo mark its organization, its vegetative and animal proceſſion, its growth, its utmoſt perfect ſtate; and its decay, its defects, its diſeaſes, and all the accidents which give occaſion to the working of its natural or violent deceaſe; that every ſpring and movement, every accident, act, and operation, the cauſe, the reaſon, the end and effect of all, will be equally known to the reader, as though he was living amidſt them, and under their influence. Without this knowledge we may read hiſtory, but it will be the ſtory of a creature little known to us. We have all read the Perſian, Ægyptian, Grecian, and Roman Hiſtory; but will the beſt verſed in theſe matters ſatisfy himſelf that he has any ſuch habile idea

* Bacon de Augm. Lib. II. c. 5.

of

of either of theſe people and their ſyſtem, as above required? will he, when I aſk for information, be able to tell preciſely what was the ſtate, what the ſupply and conſumption of this ſtate, while their labour was confined ſolely, or principally, to the earth? why ſuch and ſuch poſſeſſions of lands, waters, and things, became neceſſary to them? how they occupied and maintained them? how the interior ſprings, and exterior momenta aroſe and acted under theſe circumſtances? how they were able to put themſelves into ſuch form as to act towards objects *ab extra?* how under theſe forms the diſtribution of powers and duties amongſt the individuals in the communities of Greece, but of Rome more eſpecially, were made, and yet the political liberty of the ſtate, and the perſonal freedom of the individual, preſerved? how citizens of equal rank and liberties, entitled to equal choice in a ſhare of the *civil* government, could (having been either drawn out by lot, or preſſed, to bear arms as privates) be continued during long wars, and retained for a ſeries of years under the deſpotiſm of the *military Imperium*, conſiſtent with that liberty of the ſtate, and that freedom of the citizen, conſiſtent with the avowed rotation of election to civil offices open to all? how they

they could be thus ſecluded from their rights and excluded ſo long from re-entering into their civil order? will any hiſtory explain this to me? I know none that does. I look to the learning of the Antiquary for this information, but as yet I know none that gives it. There are many inſtances in the Roman hiſtory of the people and the ſoldiers revolting againſt this unequal grievance. To quiet complains on this head the ſenate was forced ſo early as [U. C. 246.] the Etruſcan war, to liberate the Plebeians from paying the Portoria and tribute, in conſideration of their perſonal ſervices *. "The rich, "who were able to bear this burthen of "taxes, ſhould pay their contributions in "this form; while the people who were "poor, ſhould be conſidered as paying "their ſhare by bringing up children who "were to ſerve the ſtate." This is the only paſſage which I can recollect, which looks like an explanation of this difficulty: and yet this was only a partial and temporary ſhifting off the complaint (*blandimenta Plebi per id tempus ab ſenatu data*), for we find again the Portoria and veſtigalia in collection. A pay or ſubſiſtance

* Ut divites conferrent, qui oneri ferendo eſſent, pauperes ſatis ſtipendii pendere, ſi liberos educarent.
Tit. Liv. lib. II. § 9.

given

given to the ſoldiers was afterwards eſtabliſhed; this and the ſtate of dependency to which the people were reduced by their debts and general poverty, ſeems to be a reaſon of the claim to their perſonal ſervice, as private ſoldiers, being ſubmitted to. The difficulty however of reconciling this military imperium with the freedom of the citizen, and the liberty of the conſtitution, ſtill preſſes. There are many other curious diſquiſitions which ariſe in this branch of learning: as, how thoſe communities divided into thoſe who labour on the earth, into thoſe whoſe labour is employed on the produce of the earth, thoſe who adminiſter the civil powers of the community, thoſe who are either permanently or occaſionally ſet apart for the defence of the community; how, after the community is ſo divided, thoſe, who do not produce what can be eaten, are fed; how the ſurplus produce of labour which can be of no uſe to the community can be exchanged for what is of uſe; how this leads to commerce; how commerce extending the communion, encreaſes, by its naval adventitious members, the power of the ſtate: without ſome degree of this information of the communities and growing ſtates of the ancient world, we may read and learn a great deal

deal, but ſhall know very little; we ſhall continue reading about a creature that we do not underſtand the nature or conſtitutution of; we ſhall neither conceive the ſprings, the means, nor the ends of its actions; we ſhall neither ſee the purport of the wars, nor the reaſons of the fœderal connexions it may make, nor the grounds on which it ſtood by means of them. We may travel in hiſtory for ages through many regions, but it will be always as in a thick fog. We may ſee in ſucceſſive ſteps the groups of thoſe figures and facts only which are immediately local and temporary; but the *enſemble* of the piece will be hid from us and unintelligible. We muſt here have recourſe to the learned Antiquary; the light of his diſcoveries muſt diſpel the cloud; when it does ſo, the proſpect will open upon the *mind's eye* in all its extent, in true perſpective, and cloathed in all its genuine colours. The objects and figures in the piece will be ſeen in their proper bearings and proportions; a ſyſtem as pervading the whole will be ſeen in the deſign; the connexion between cauſes and effects will be ſeen in the execution; and *hiſtory may thus become experimental knowledge.*

If I know the ſtate of the produce of a community, either by grazing, tillage, hunts, fiſheries, or mines; and the ſtate of its manufactures as framed upon this produce; the diviſion of the individuals of the community into huſbandmen and manufacturers; the reſpective proportion of theſe; the ſurplus labour employed, and the ſurplus ſtock of labour created; whether this continues to circulate as a living or is ſtored as a dead ſtock; I ſhall be able to eſtimate the internal capabilities of that community, its happineſs, its wealth, and its power of external exertion. This information is not found collected in any hiſtory; and yet the being poſſeſſed of it is neceſſary to a real knowledge of the actions of that political being, whether prince or ſtate, which one is reading of. The Antiquary collecting and combining many of theſe ſcattered and neglected facts, which, ſeparate as they lie, are not either relevent or applicable, will give me this information. Hiſtory is in general only the recital of the brutal part of man's ſyſtem, his robberies, plunderings, and wars, mixed with ſome temporary intervals of neceſſary truce called peace; which laſts no longer than till the power of war

has acquired ſome freſh ſtrength, or new means of exerting itſelf again. Two of the principal drifts of true experimental hiſtory ſhould be pointed to give us information, and lay, as in a map, before the mind's eye, the *viciſſitudines rerum*, and the *fundamenta prudentiæ:* Yet the narrative of hiſtory ſeldom enters into theſe *minutiæ*. So far from giving the changes and revolutions of things, it does not (generally ſpeaking) give the actual ſtate of them at any one time: inſtead of pointing out the *fundamenta prudentiæ*, it ſeldom enters into the rationale. It is employed to invent myſterious reaſons for what was mere paſſion, and to give an air of policy to the violences of man; to paint their operations, to trace their courſe, or to ſtate the effect, as acts of glory which form the ſtateſman and the hero. It is the pomp and circumſtance of action, not the principle of the reaſoning part, that is the general object of the hiſtorical drama. An analytic hiſtory of the progreſs, growth, expanſion, and decay, of the civil community, in whatever external form it exiſts, can alone explain the *viciſſitudines rerum*, or trace the *fundamenta prudentiæ*. The very creature whoſe actions we view, is, without this knowledge, a creature quite unknown to us: Could I have any idea of man, ſeeing

only a picture of him as a ſprawling child, or in the helpleſs decrepitude of age? Could I have any idea of the progreſſive ſtate of his being; of the neceſſity of attentive nurture to his childhood; of the neceſſity of ſupport and aid to his old age; if I ſaw, at one view only, the portrait of his manhood? As of man, ſo of the human community, thus ſuperficially or partially ſeen, I ſhould neither ſee the different wants in the different ſtates of its being, nor have experience of the ſupplies which ſhould correſpond to thoſe wants; nor of the ſources which might produce thoſe ſupplies. If this point of knowledge (I mean *the analytic hiſtory of the human community)* be a *Deſideratum* in the hiſtoric line of learning (as to me it ſeems to be), what a glorious and extenſive field is here open to the learned Antiquary to ſpatiate in!

The vegetative ſyſtem of the community (if I may ſo expreſs myſelf), the internal living and growing part of its being, may be compared to the roots of a tree, which ſupport the preſent plant, and are continually, though unſeen, extending the means and maintenance of its future expanſion in its branches. If the roots are not extended in the earth below, the

branches can never extend their growth above. A ſurplus and collective ſtock, created by agriculture and manufactures, can alone give activity of power to numbers of people in any degree: but commerce alone is that vegetative ſyſtem of the community, that can give a permanent ſource to this activity: a knowledge then of the commercial movements, operations, and powers of the ancient communities, ſeems abſolutely neceſſary to any one who would underſtand the actions of thoſe communities. In order to explain myſelf, when I refer to the uſe that this knowledge would be of, I will illuſtrate theſe ſuggeſtions with an example or two.

Does it not appear unaccounted for, and unaccountable, that after the Grecians had poſſeſſion of the Trojan port and ſtation; after they had driven the Trojans out of the field, had laid ſiege to Ilium, and had an army numerous enough to have made a perfect blockade; that the Trojans and all their auxiliaries maintained their ſupply, and continued in this ſtate of reſiſtance for ten years, without a dearth or famine making any part of the diſtreſs which they laboured under. Thucydides, who is our Antiquary here, explains this fact. Giving ſome prefatory account of

the antiquities of his country, and of the ancient ſtate of it; he ſpeaks to this very point of the ſtate of the community; of the nature of the ſupply; and of that part of the people whoſe labour was neceſſary to produce that ſupply. The diviſion of the people into huſbandmen, and ſeparate manufacturers of the ſtock of the produce, was not yet made, ſo that there was neither a ſuperfluous ſtock of labour, or of hands, which could be ſpared for war, in ſuch manner as that the ſupply could be continued and kept up.

There were, he ſays, men enough in the country; and though the ſtates ſent out above one hundred thouſand men, they could (he ſays) have ſent out many more, could they have created a ſurplus ſupply for this number, while theſe hands became thus unproductive of their own ſupply, being filled with arms and employed in war. Not much more than a third of theſe, who formed this armament, could be reckoned upon as effective in the lines. One part, he ſays, was employed on the Cherſoneſus, to raiſe and maintain a ſupply for the army; another was employed in their ſhipping, and as marines, to collect ſupplies by trade, or plunder, as they could. Thus the blockade was not only

only incompleat, but the Grecians were at times ſo weakened with theſe detachments, as well as by death and ſickneſs, that the Trojans were able to repreſs them back within their lines, and even to beſiege them there, in their turn.

That the Ægyptians, on the other hand, had in the moſt early periods a ſuperfluous ſtock of ſupply equal to the ſupport of multitudes of unproductive hands, the erection of their pyramids, obeliſks, and other great works of architecture, is a proof: but it is a melancholy proof at the ſame time of the perverſion of the productive powers of man in ſociety, when we ſee ſo much labour, which, by a right turn of the wealth and induſtrious enterprize of a populous community might have produced and advanced the ſtate of happineſs to mankind, thrown away, and waſted in works which now remain only monuments of the defective ſtate of their political œconomy. However (taking things as they clearly were and muſt be) theſe monuments bear everlaſting teſtimony to the goodneſs of the hearts of thoſe miniſters, or thoſe kings, who did thus employ the ſuperfluous idle hands, and ſuperabundant ſtock of ſupply, which the fertility of the country gave, in works

of harmleſs parade and vanity: inſtead of being actuated by the common ardent ambition of tyrants to employ them in the deſtruction of the human ſpecies.

Let the ſtudent in hiſtory conſider again, in a different view of things, the nature of the ſtate of the Hebrews, prior to the time of David and Solomon; and the growing extent of the wealth and power of that ſtate, when (under the government of thoſe enterprizing princes) they got poſſeſſion of the Red Sea; actuated its navigation; and profited of the circuitous commerce of the Arabian and Perſian Gulfs, and of Indian Seas. Let him view them emerging, as it were by magick, from an inconſiderable inland ſtate, to a commercial naval and powerful empire; and how again upon the loſs of this they ſunk as ſuddenly again to their original littleneſs.

When, in another inſtance, he ſees how a collection of merchants (one can ſcarce call that community a nation, or its civil corporation, a ſtate, I mean the Phœnicians), ſet down on the line of intercourſe between the great trade of the eaſt and that of the weſt, and actuating the movements of this combined commerce, ſoon

ſoon acquired an aſcendency in and took the lead of the intereſts and powers of the then great world, he will no longer wonder at the effect, he may derive knowledge from experience in the cauſe. He will ſee the ſame effect connected with the ſame cauſe in the eſtabliſhment of the power of the Hanſeatic league in Europe. If conſidering this and purſuing this line of reſearch, and examining it by this train of reaſoning, the learned Antiquary will review the plan, and ſyſtem of meaſures, which formed the conduct of Alexander, truly called the Great, the uſe and importance of this information, in this branch of learning, will appear ſtill more evident.

It will be ſeen that this great prince and his council perfectly underſtood the operations and effects of this ſyſtem, as it lay in nature; as it was interwoven into the affairs of man; and as it nurtured, animated, and actuated, the intereſts and powers of ſtates; as alſo how this might be wrought to conſpire to the eſtabliſhment of an univerſal empire of the world. His knowledge of the real weakneſs which there was in the impoſing grandeur of thoſe ſtates that he acted againſt, led him to the conqueſt of them. His conqueſts led to aſſured knowledge on experience of the

the powers whereon theſe ſtates ſhould have been founded. His progreſs, ſucceſsful as it muſt be, being guided by ſyſtem, founded in actual truth, opened to him every ſtep he took, and every day which roſe, more and more extended views of the expanded intercourſe of commerce as it actually moved and acted; and of the univerſal communion to which it was capable of being extended; all conſpiring to *one great Lead*, which, while it was ſupplied by the *commerce*, might act with the *naval power* of the whole world.

This great prince was *the firſt ſtateſman who* from ſyſtem in knowlege, founded on actual experience of the movements and tranſactions of men, in the various lines of trade, *combined the intereſts and powers of commerce with the operations of polity*, ſo as by the true attractive ſpirit of communion, as it acts in nature, to form that organiſed *imperium*, whence command and government would, through the laws of nature, derive upon all the communities who became parts of this combination, and who moved within the ſphere of this attraction. Having united the naval power of Greece, raiſed and maintained by the aſcendent commerce of the Euxine and Ægean Seas; he ſoon drew

drew the naval intereſts of the Ionians within the orbit of his revolving powers. And theſe combined did, as they muſt in the natural courſe of things, create a center to which the commerce of Tyre muſt become ſecondary and ſubordinate. In this natural progreſs of his ſyſtem, Tyre muſt, as it did, fall under his dominion. The merchants of Tyre had actuated and commanded, what the ſtateſmen of Perſia ſhould have done as an eſſential part of their political ſyſtem, the commerce of the Indies. This coming under the command of Alexander, Perſia became nothing in the ſcale againſt the aſcendent and predominant power of this great ſtateſman and warriour. The ſteps which led to, and effected this conqueſt, did, as in a courſe of experiments, mark out to his genius a ſyſtematic knowledge of the baſis whereon this Perſian empire ſhould have been ſet and would have ſtood, and whereon a great empire might be formed and founded.

His fixing on the ſpot, whereon to build Alexandria, as the center of commercial ſyſtem, and making that, perhaps, the only ſpot on the globe to which all the three great departments of the commerce of the ancient world could have mutual,

com-

commercial, and even naval communication; to which the directions of all their reciprocal lines of movement might concenter; and in which all their interwoven intereſts might combine: His fixing upon this ſpot; and forming and eſtabliſhing this glorious ſyſtem of commerce thereon; and uniting this ſyſtem to the conſtitution of his *Imperium*, had this effect in all his meaſures, that while he was the actuating ſoul, the circulation of commerce (like the circulation of the blood in man) was the life of the whole. The forming ſuch a ſyſtem of communion as the baſis, and the building his ſuperſtructure of government thereon; diſtinguiſhes this great prince from all other heroes the conquerors, in order to be the tyrants of men: while inſtead of being the mere conqueror, acting with the brutal force of man, to deſtruction; He (I had almoſt ſaid) like a divinity actuated, and acted with, the powers of nature to the eſtabliſhment of nature's ſyſtem in communion. It was on this ſyſtem, and by a linked progreſſion of meaſures founded thereon, that he made ſuch inquiſition and ſearch into all the ſources and channels of the trade of the Indian ſeas and regions: that upon the reſult of his diſcoveries he eſtabliſhed that great *Eaſtern branch of the commerce* of the world; and

and that he interwove and combined this at one center of attraction with the *trade of the north.* This center to which all conſpired; and from which power thus collected diverged to all parts of the commercial hemiſphere was Alexandria in Ægypt. Thoſe extenſive plans were, however, but links of the chain, but parts of his general ſyſtem. While by the entrepôts, which he created and fixed between Ægypt and the Eaſt; by the trading ſettlements which he eſtabliſhed in the Eaſt, under the protection of his arms; by the factories which he advanced in every remote ſource under the cover of his outpoſts; while by theſe meaſures this great machine was getting into motion and beginning to act; He was forming the plan of drawing the late Tyrian and remaining Carthaginian *Commerce of the Weſt* into the ſame vortex.

Having put his meaſures reſpecting commerce and the naval power into execution, he deſigned, when the operations of theſe meaſures had brought forward and prepared events for it, the invaſion of Carthage and its ſettlements. Acting by an aſcendent fortune, and become predominant, he muſt in all human probability have ſucceeded.

Such

Such were his aſſured ſteps, that this trade alſo, connected at the root, deriving its nouriture from the ſame ſources, extending its branches interwoven over the ſame regions, moving within the ſame circulation, muſt have come within the ſphere of the ſame attraction; muſt gravitate to and revolve about the ſame center; and become thus a part within the univerſal ſyſtem or a very ſubordinate and ſecondary ſyſtem of itſelf *ab extra.* In either caſe, the trade of the Carthaginians muſt have been impoveriſhed, their naval power weakened and reduced, and the dominion itſelf ſuccumb to *the univerſal Imperium of this* GREAT STATESMAN PRINCE. *Sed Diis aliter viſum.* He died; and the ſoul, which was the center of vitality, and the ſpring of action to this ſyſtem, departing, the unity of the ſyſtem was broken; ſeparation, like another confuſion of Babel reverſed the whole.

Looking then up to this great commercial triangular pyramid, as it would have ſtood on a baſe, one point of which projected beyond the Straights of the Mediterranean on the *weſt*, while another advanced to the almoſt bounds of the Euxine

Euxine and Paulus Mæotis on the *north*, and the third to the remoteſt regions of India eaſt; looking up to *this great coloſſal ſyſtem of empire* thus founded on commerce; and ſeeing what the city of Rome was at that time, fighting for the very ſcite of its future empire, on its own *narrow world* Italy, not only ſurrounded but hemmed in by warlike, jealous, and hoſtile neighbours on all ſides; one may, without incurring much the imputation of preſumption, decide upon the ſpeculation which Titus Livius, lib. IX. § 17. inſtitutes and diſcuſſes on this curious queſtion —*Quinam eventus Romanis rebus, ſi cum Alexandro bellatum foret, futurus erit.* The hiſtorian's reaſons are thoſe of a good citizen, and an ingenious advocate in the caſe: but his ſpeculation does not ſeem to have comprehended the whole caſe; and his reaſons ſeem to have reverſed the courſe of the meaſures which he was examining, ſpeaking of the meaſures of monarchs like Alexander, he ſays, *Domini rerum temporumque trahant conſiliis cuncta, non ſequuntur*; whereas the very ſpirit of the meaſures and ſyſtem, planned and purſued by this great prince, were directly the reverſe *: He did not, as mere Quixote ad-

* Se, quæ concilia magis res dent hominibus, quam homines rebus, ea ante tempus præmatura, non præcepturum. Tit. Liv. lib. 21. § 38.

venturers

ventureres in politicks do, labour to make occaſions, but *as all truly great Geniuſes do*, ſeize and profit of times and occaſions: He did not by force attempt to command nature, but by courage and wiſdom to follow her to execute her commands. Had he lived to have put in execution thoſe meaſures which he had in contemplation; and had the train of thoſe meaſures once brought him into the field with Rome; the ſyſtem of that ſtate, then in its infancy, muſt have ſuccumbed to the power of Nature, and the ſpirit of Alexander, which combined were in the aſcendent.

But to return. Having mentioned what appears to me to have been begun, or to have been in part done, and what is ſtill wanting of reſearch into the great northern and weſtern courſes of the ancient commercial world: It cannot but occur to the Society and to the Reader of this paper, how much is alſo wanting of information in that extenſive multifarious and rich commerce of the ancient Eaſt Indies. Monſieur de Huet has entered into the diſquiſition of this branch more in detail and with more preciſion than in other parts, and, as his extenſive reading and great ingenuity enabled him, has gone great

great lengths in this inquiry; but there are many materials which afford ſtill further information; and much remains to be as yet explained. This inquiry has much to tempt the curioſity of the learned Antiquary, and much to exerciſe his ingenuity. It ſeems to me, that the Antiquary, who can alone undertake this reſearch with ſucceſs, and to effect, muſt be ſome one who is perfect maſter of the eaſtern languages; who is, from a courſe of experience, acquainted with thoſe countries, thoſe people, their manners and habits; and finally one who has been a practical merchant, or connected with ſuch. There are many ingenious, learned, ſcientifick, mercantile men, who live, or have lived in, and had experience of, theſe regions; and it is from the learning and experience of ſuch alone, that the world may expect knowledge on this ſubject.

Cloſing here our obſervations on the nature of commerce, as the ſource of wealth and power to the community, we are naturally led to conſider thoſe ducts and channels, derived through which a certain portion of the produce of this ſource is, as it were, ſecreted from the general circulation, and converted into revenue of the ſtate.

The ordinary ſtudents in hiſtory read, as of matters of courſe, of the wars of nations, and of the conqueſts of the hero of the ſtory; of the marches and multitudes of the armies, and of the activity of the general; with as much ſcope of imagination, as the pen can with eaſe multiply numbers, or annihilate ſpace: But if the ſtudent by reading hiſtory means to acquire a real knowledge, founded in experience and applicable to practice, and not to collect a ſet of crude and inapplicable ideas merely as a ſupply to the ſhining in converſation; he ſhould direct his reſearches into the actual ſtate of the ſources which create and maintain this power of acting; he ſhould know the nature of the ſupply, and the form and extent of the revenues, of the political Being whoſe actions he is ſtudying. Very few writers have pointed out, and fewer readers conſidered, thoſe previous requiſites. They find no occaſion for, and ſo no difficulty in the matter of ſupply; and yet it is an obſervation not more ſhrewdly conceived than ſurely grounded which Sancho Paunch makes, that he was always ſtruck with admiration of the vigour, activity, and adventuring ſpirit of the heroes, yet following them carefully in their

marches

marches and excurſions, as he never could find where they dined or ſupped, or took their reſt, he did always ſuppoſe that theſe ſuperior Beings had no occaſion for theſe neceſſaries, without which men of the ordinary race could not get on: under this ſolution he could eaſily give his faith and aſſent to all the marvellous, on which otherwiſe he ſhould have entertained ſome ſmall doubt. Men muſt eat, and food is not to be had without the means of collecting it, as Cicero ſays in a letter to Atticus *, Res frumentaria nullo modo adminiſtrari ſine vectigalibus poteſt; and in a letter to Brutus obſerves †, Maximus autem (niſi me forte fallit) in republica nodus eſt inopia rei pecuniariæ; and we find the Scipios in the career of their victories in Spain, writing to the Senate ‡, "Pecuniam in ſtipendium veſtimentaque "et frumentum exercitui, et ſociis navalibus omnia, deeſſe; ab Roma mittendam eſſe nec aliter aut exercitum "aut provinciam retineri poſſe." Without ſome account therefore of the Revenues of the ſtates whoſe actions we read of in ancient hiſtory, we ſhall be very little able to judge of the competency of the

* Epiſt. ad Att. Lib. IX. Ep. IX.
† Ep. VIII.
‡ Tit. Liv. lib. XXIII. § 48.

ſtate to the meaſures repreſented; or of the means proportioned to the ends propoſed by that actor whoſe hiſtory we are reading.

We can never form any judgement of the reaſons of ſtate in the conduct of that government, nor be able to diſtinguiſh the probable from the improbable, the poſſible from the impoſſible, the competent from the incompetent; we ſhall never be able to compare the combination of wealth and power in one nation, with that of another; nor ever to form any judgement but from event, nor to know the real nature of that event neither.

Here the learning of the Antiquary muſt lend his aid to knowledge: his erudition collects, and his knowledge aſſorts, the many ſcattered particulars which lie referred to paſſantly in the various hiſtories of Antiquity, and form for the ſtudent ſuch a ſyſtem, as may enable him to become in great meaſure cogniſant of theſe neceſſary matters. There has been much induſtry and profound learning employed by the Antiquaries on this ſubject; and yet, in all which has been collected and compoſed in theſe matters of finance, a certain want of official experience

rience in the detail of the collection, and in the application of the revenue to the ſervice in practice, has occaſioned an unavoidable defect, which will only be perceived when it comes to be applied to operation in the effect; and will therefore only be perceived by thoſe who read, and ſtudy what they read, for the purpoſe of collecting experience: then is it that we find the difference between the blooms of learning, and that fruit-bearing ſcience which muſt have a ſource of knowledge of principles at the root.

In order to explain and illuſtrate what I think is here required, I will, by way of inſtance, attempt to give an account, from what may be picked out of the Roman authors, of the nature of the revenues and treaſury buſineſs of the Roman State.

The *eſtabliſhment of the civil government* in the early periods of the Roman people, under the kings as well as under the conſuls, required very little expence: here perſonal ſervice was the principal tax, which power and honor fully recompenſed. When the *military eſtabliſhment*, as the conduct of the wars grew every day more expenſive, required the ſupport of a revenue; the Plebeians complained of the

inequality and injuſtice ariſing from the demand made upon them for taxes, while the demand upon their perſonal ſervice in the army, taking from them thoſe means of labour which was their ſupport, rendered them incapable of paying thoſe taxes: they were accordingly excuſed from paying the tribute on this ground, "*Pau-*" *peres ſatis ſtipendii pendere ſi liberos edu-*" *carent.*" The expences, however, of a growing ſtate, involved in various wars, and various fœderal negotiations and connections, was obliged to maintain various ordinary eſtabliſhments, and repeatedly incurred various extraordinary expences. To a ſtate, in theſe circumſtances, a permanent and regular revenue became neceſſary, and taxes were therefore neceſſarily impoſed and levied. Theſe, in the times of monarchy, were impoſed by the kings, and in the times of the Republick by the Conſuls (perhaps in ſenate) by the Cenſors, or the Dictators, as the caſe ſtood and required. I have ventured to ſay this, although I know that it is a point by no means ſettled amongſt the Antiquaries, whether it was impoſed by the ſupream magiſtrate alone, or by him in ſenate, or whether it originated in a Senatus-conſultum, or in a Plebiſcitum, or whether it was originated by the Senate and enacted

'jussu populi.' I take my ground for this assertion from this certain fact; that the kings had the power of imposing taxes, and on the Revolution, at the expulsion of the kings, Livy informs us *, *Libertatis autem originem inde magis, quia annuum imperium consulare factum est, quam quod diminutum quicquam sit ex regia potestate.* This ground can be made good by various instances which might be adduced; but with which, as I am not here writing expressly on the subject of the Roman finances, I will not trouble the society, nor the reader; I only suggest what appears to me wanting, and what I think might be explained.

The spirit and reasoning, by which these taxes were laid, took their course in the two following lines. The *Tributum* was imposed upon property, real and personal, or faculty, in proportion as rated in the *Census*.

The *Vectigalia*, of which the *Portoria* were the chief class, were imposed on the produce of the lands, goods, and every article of sale, in their passage to and in

* T. Liv. II. § 25.

their ſale at market; theſe were the * *viceſima*, or five per centum, and the * *centeſima*, or one per centum; this kind of exciſe at different periods, and on various occaſions, were extended to numberleſs and † nameleſs articles.

The neceſſity of impoſing and collecting from the citizens of Rome the ‡ *Tributum*, was ſuperſeded by the depoſit of treaſure placed at the bank upon the conqueſt of Macedonia: the reſt continued as branches of the revenue, collected as the vectigal domeſticum.

* Theſe branches of the exciſe, not only exiſted before the regulations made in them by Auguſtus, but were paid Italy, and were a *vectigal domeſticum*, as Cicero calls them. It ſeems to me therefore, that Mr. Gibbon is miſtaken when he ſuppoſes that Auguſtus firſt impoſed them on Roman Citizens, who had been exempted from any kind of contribution above a century and a half. Auguſtus made many regulations in them, and ſeveral extenſions of them.

† I ſo deſcribe them from the naſty and infamous nature of them.

‡ Cicero in his Offices, Lib. II. § 22. mentions this of the *Tributum*. But when Mr. Gibbon ſays, chap. VI. "that the Roman people was for ever delivered from the "weight of *taxes*," he announces as of the genus, what Cicero only ſaid of that ſpecies the *Tributum*. When the mutinous ſpirit of the people, at the criſis of the breaking up of the republick, called for releaſe from the *portoria*, and to have a diviſion of the Ager Campanus, Cicero, writing a long letter to Atticus on the ſubject (Lib. II. Ep. 16.) ſays, Portoriis Italiæ ſublatis, agro campano diviſo, quod vectigal ſupereſt domeſticum præter viceſima?

Beſides

Beſides theſe, the Roman government derived a revenue from *a landed property*, which it held as *the demeſnes of the ſtate*. As the Romans conquered the nations of Italy, and of the world, they generally reſerved ſome of the *arable and paſture, and other cultivated lands*, to be held by the government as the landed eſtate of the Republick, the produce or profits of which were the publick revenue. The government* let them to farmers for a certain ſtipulated rent; when ſo let, they were called *ſtipendarii:* It let the arable to Aratores, tillage huſbandmen, and received *tithes* † of the produce in kind, or in ſuch manner and by ſuch compoſition as the Aratores could make with the Tithingmen or Decumani. Theſe lands were called *Agri Decumani.* Oil and wine alſo, as the produce of the oliveyard and vineyard, paid a *vectigal* in a given proportion. I doubt whether I may call it a tithe, as I find that hort-yards and gardens paid but a *fifth.* There was alſo even in the *Decunæ* ſome diſtinction made between the great

* The doing this was called, the Locatio Prædiorum Ruſticorum. Liv. Lib. XLV. § 18.

† Tithes were of old a financial eſtabliſhment of Sicily, under its own kings, and I believe of many other ſtates alſo, prior to the adoption of them by the Romans, as one of their ways and means,

and

and ſmall corn or grain; the government alſo, to ſecure its ſupplies in the *re frumentariâ*, made further conditions of preemption at an aſſized price.

The revenue of the *Paſcua*, the paſture land, was raiſed by taking in cattle to graze, adjoiſted at a certain *Locatio*, or contract rate per head, for the grazing. The liſts taken by the publicani of the number of cattle, &c. adjoiſted by the graziers, the paſtores, was called the *Scriptura*, whence this branch of revenue took this name.

Theſe were the modes of raiſing the ordinary revenue from the landed demeſnes of the ſtate; but the government, in caſes of emergent difficulty, had extraordinary ways and means of raiſing money upon the capital by ſale of them, with equity of redemption, when the government could repay the money.

The revenues * raiſed upon the provinces in general was a *vectigal certum impoſitum quod ſtipendarium dicitur*; on the contrary, *omnis ager Siciliæ civitatum decumanus eſt*, with the exception of five or

* Cicero in Verrem. Actio 2da. lib. III. § 6.

ſeven

ſeven cities, which were free and had immunity from the tithes.

The mines were another ſource and branch of revenue; the government kept theſe in their own hands, and worked them by their ſlaves and convicted criminals, under the inſpection of their own officers; theſe were called the *Metalla.*

The collection of theſe ordinary branches of the revenue were generally farmed out to companies of bankers, to Societates, or Socii Scripturæ, &c. who agreed for them at a ſtipulated *Locatio*, or contract price, by which means the income revenue became conſtant and uniform. Theſe *ſocietates*, or companies of bankers, were alſo of great uſe to the government, by advancing money on loan in caſes of emergency, as will be ſeen.

Beſides the ordinary branches of revenue by the *Tributum*, the *Vectigalia*, and the *Metalla*, the goverment in caſes of emergency did ſometimes call on the patriotiſm of the people to contribute to the neceſſities of the ſtate, in proportion to their love for their country, and to their abilities in aſſiſting it; this, which we ſhould name a *Benevolence*, was called

Tributum

Tributum Temerarium, quando *populus in ærarium, quod habuit, detulit*; a curious precedent of this in the ſecond Punic war may be read in Tit Liv. Lib. XXVI. § 36. and in Florus, Lib. IV. cap. 6. § 24, 25.

Another extraordinary method of raiſing the current ſupply was by loan on the public credit, borrowed on ſuch conditions as the government could make at the time with the *Societates*, or companies of farmers general. This required an act of the ſenate. The following is the precedent in V. C. 537. * 'At the end of ſummer, the 'Scipios wrote an account of their ſucceſſes in Spain; but added, that money 'for the pay, cloathing, and ſupplies of 'the army was wanting, and for the 'ſocial fleets every thing. As to the pay, 'they would manage to arrange that upon 'the ſpot, but if money was not ſent 'from Rome to defray the other charges, 'neither the army nor the province could 'be retained. Theſe letters being read in 'the ſenate, there was not one of the 'whole body who did not allow that 'what was ſtated was true, and that what 'was required was juſt: but then conſidering on one hand what great ſupplies

* Tit. Liv. Lib. XXIII. § 48, 49.

'the

'the Macedonian war, ſhould it come 'forward, would call for; and on the 'other, the deficiencies of the treaſury;' the ſenate came to this reſolution, "That "unleſs the government could raiſe the "ſupplies on credit, they could not be "raiſed on the current revenues of the "ſtate."

"That therefore Fulvius ſhould go to "the public aſſembly of the people, and "ſtate to them the public neceſſities, and "exhort thoſe who had made their for-"tunes by contracts and the public farms, "that they ſhould advance by loan to "the government, for a time, ſome part "of theſe fortunes which they had made "under its adminiſtration, which monies "ſo advanced ſhould be repaid to them "out of the firſt ſurplus balances which "were depoſited in the treaſury."

'The prætor fixed a day for making 'this contract, and on the day ſo fixed 'three companies, of twenty-one each, 'offered the loan on two conditions; '1ſt. That they ſhould be exempt from 'military ſervice. 2d. That the things 'they ſent ſhould be inſured by the go-'vernment againſt the danger of the ſeas 'and of the enemy.

'On

'On theſe conditions the contract was 'made, and the public ſervice was car-'ried on by the monies of private ci-'tizens, on the ground of public credit, 'juſt as well as though the treaſury had 'been in full efficiency.'

The BANK *, which was ſoon after eſtabliſhed at the end of the Macedonian war, for ever after, while it remained ſacred, ſuperſeded not only that branch of the ordinary revenue raiſed on the citizens called the TRIBUTUM, but alſo the neceſſity of borrowing and funding. After the ſeizure of the treaſure of the Bank by Julius Cæſar, this neceſſity returned again, and in the time of Claudius one reads of ſomething of the like kind.

It appears that the ſpoils of the Macedonian conqueſt were the firſt *depoſit* on which the Bank was eſtabliſhed. This Bank, thus once eſtabliſhed, became A BANK OF DEPOSIT. After this, all the moveable wealth of every country, as they conquered it, was depoſited as ſacred to

* Cicero de Officiis, Lib. II. § 22. Omni Macedonum gaza, quæ fuit maxima, potitus eſt Paulus: tantum in ærarium pecunia invexit, ut unius imperatoris præda finem attulit *Tributorum*.

the

the public uſe, in the bank of the Ærarium, as were all ſurpluſes of the taxes. Lucan in his Pharſalia, Lib. III. gives in a few verſes the heads of thoſe ſeveral articles of depoſit:

Romani cenſus populi, quem Punica bella
Quem dederat Perſes, quem victi præda Philippi,
Quod tibi, Roma, fugâ Pyrrhus trepidante reliquit.
Quod te Fabricus regi non vendidit auro,
* Quiquid parcorum mores ſervaſtis avorum,
Quod dites Aſiæ populi miſêre tributum,
Victorique dedit Minoïa creta Metello,
Quod Cato longinqua vexit ſuper æquora Cypro
Tunc Orientis opes, captorumq; ultiæa regum
Quæ Pompeianis prælata eſt gaza triumphis
Egeritur.

The officers at the head of the adminſtration of this branch of the revenue, were the *Quæſtors*, for a time the *Prætors*, and at ſome periods the *Ædiles*. The general receipt into the Ærarium by actual caſh, by bullion, or by the *rationes* of the provincial quæſtors; the coinage; the

* Theſe are the ſurpluſes which I refer to.

iſſue

iſſue to the ſervice by caſh, or by aſſignment, in payment, or by impreſt upon account; and the keeping of the accounts of the whole; were of their department. Whether this department in the whole, or in part, and in what parts, was conducted by a concurrent juriſdiction with (it was certainly under the control of) the ſenate, is not a matter decided, at leaſt as far as my information goes: there are clearly ſome matters, and were ſome times, in which the ſenate interpoſed its authority. The vote of the ſenate in the caſe of the loan above-mentioned, and the ſettlement of the ſtipendium of Macedonia, the arangements made in the collection of the Vectigalia and the Tributum, by a reſolve of the ſenate, is another. It ſeems that this might have been left to the executive officers; "*tamen in ſenatu quoque* "*agitata eſt ſumma conſiliorum ut inchoata* "*omnia legati ab domo ferre ad imperatores* "*poſſint* *."

The actual collection of theſe revenues were by the hands of the *Publicani*, or of the Farmers-general in right of their *locationes* or contracts; and the diſtribution

* Vide T. Livium. Lib. XLV. § 18. The detail of theſe arangements are worthy the attention of the learned Antiquary.

by the hands of deputy pay-maſters, civil and military.

By the account which I have here given of the revenues and finances of Rome (defective as this may be) will be ſeen how much ſtill leſs is known of this life-blood of other ſtates. I could have drawn out this matter into a greater detail of particulars, and have compoſed theſe particulars into a more full and perfect deſcription of this point of antiquity, had I meant here to have written an expreſs treatiſe on this ſubject: what I have done is only to give one example of the doctrine I laid down; and to ſuggeſt to the Antiquary how much ſtill remains to be done in this line of reſearch, as it concerns the hiſtory of every ſtate and nation which forms any of theſe dramatis perſonæ of ancient hiſtory. When we come to thoſe periods which form the beginnings of the modern hiſtory, the neceſſity of an examination into and a knowledge of the ſtate and nature of the ſupply of thoſe communities, who, like ſucceeding waves, made that inundation which deluged the old world, will appear ſtill clearer; as without ſuch knowledge every part of that period of hiſtory is inexplicable and incredible.

This account of the ſyſtem of the Roman revenue explains the encreaſing faculty and capacities of that ſtate, forerunning its exertions, in ſuch manner as rendered it competent to all the enterpriſes that it engaged in.

The nature of this ſyſtem, ſo working at the root, as to become a ſource to real greatneſs and amplitude of ſtate, when united by a pervading and aſcendant ſpirit, points out at the ſame time how liable the republick was to ſeparation of parts and diſſolution of ſyſtem, when the loſs of manners, the fever of faction, or the gangreen of corruption, once ſeized the people, and a defect of vital union took place in the government.

At the ſame time alſo that this account of the *Bank of Depoſite*, which is here given, ſhows in reaſoning and in fact the inexhauſtible reſources of the republick, it explains the means by which Julius Cæſar was enabled to carry forward his plans of war and government, when he took poſſeſſion of it. He had, as dictator, an oſtenſible right to the cuſtody and command of this, and under pretext of this oſten-

oſtenſible, he by force of arms ſeized it, and uſed it.

Further; from this ſtate of the financial ſyſtem may be ſeen how the power of the Patricians as conſuls, prætors, cenſors, and dictators, and of the ſenate, was founded on real influence.

And from the detail of the landed branches of this revenue, the motives both real and pretended, both conſtitutional and factious, which urged the quarrels between the Patricians and the people on the ſubject of the Agrarian laws, may be explained.

From the nature of that branch of revenue, the *tythes*, which aroſe from the *agri decumani*; and by an inquiry how this branch was transferred to the Chriſtian Church on its political eſtabliſhment, may be diſcovered, I ſhould gueſs, the true origin of tythes, as they in fact came to the church, which will alſo explain at the ſame time, the reaſon why there were no tythes in Italy: the lands there were held by a different tenure.

Theſe are ſome of the uſes of this branch of learning; but every day's ex-

perience in reading would preſent more than memory will thus ſuggeſt.

As thus of the *ſources* of power in the ſtate, much yet is wanting to an explicit practical knowledge, applicable to facts and events, of the *actual power* in the operations of the military eſtabliſhment as a body. I am here ſpeaking in general, not of any particular ſtate.

Repeated accounts are given in ancient hiſtory of the naval power of various nations; and of the ſucceſſive dominion which theſe nations held over the ſea. We read of their trading voyages, and of their naval enterprizes and wars: many treatiſes have been written on the nature of their ſhipping; but as the writers, however learned in collecting, and accurate and ingenious in explaining, the quotations which paſſantly mention theſe matters, as when I mention profeſſor Scheffer, no one will doubt; yet not having been converſant by practice, or experienced in voyages at ſea, in the effects of winds and waves, and in the *manœuvres* and working of a veſſel either by ſails or oars, their accounts have been ſuch as are inapplicable either to the compoſition or operations of naval mechanicks. Notwithſtanding all

that

that has been written on the ſubject of *their ſhips of war, of their* BIREMES, *and* TRIREMES, the learning has remained inapplicable, and knowledge of the ſubject a *deſideratum*, until general MELVILLE applied his extenſive and very accurate learning, in the line of practical analyſis, to the inſtituting an experiment of the fact. The model in large, which, as an examplar, he very obligingly ſhowed to me, together with ſome of our ſociety, was ſo adapted to the art of rowing, and to the producing the effect conſiſtent with the power of man; was ſo guarded in the manner of ſecuring the oars, againſt any accident which might arrive by the power of the winds and waves, or be adduced by the attacks of an enemy; and was withal ſo ſimple (as all things which are meant for uſe at ſea muſt be), and finally ſo exactly ſimilar, in the frame and conſtruction of the rowing-gallery, to the models which are to be ſeen in medals and baſſo releivo's; that one may venture to ſay, that whenever he ſhall pleaſe to communicate and publiſh to the world his diſcoveries on this ſubject, they will come forward with ſuch clear demonſtration that the ſubject-matter will be no longer a puzzle nor the knowledge of it a *deſideratum*.

Having, ſince I wrote what is above, ſeen General Melvill, and acquainted him of the liberty I had taken in mentioning his *diſcovery* of the true conſtruction of the *row-gallery* of the ancient *triremes*, *quadriremes*, and *quinquaremes*, &c. and of the manner of poſting the rowers, and the mode of rowing the veſſel; and expreſſing a hope that he would ſome time or other communicate to the learned world what would ſo much enlighten it on this ſubject; he very politely, and with that liberality of ſentiment which all men of real learning and ſcience have, anſwered, he would ſo communicate it, and that this treatiſe of mine ſhould be the conveyance of its firſt publication. He ſent me, what he calls, A Narrative of his inveſtigations and diſcoveries on this ſubject, that I might inſert it in this treatiſe. But as the courſe of this work goes, in the body of it, only to ſuggeſtions of *deſiderata*; and of the mode by which ſuch ſubjects in which theſe *deſiderata* ſtill remain may be inveſtigated, and not to what has been inveſtigated and diſcovered; I have placed this very learned and ſcientifick inveſtigation, with the very intereſting diſcovery, which aroſe from it, in the Appendix N° III, as a Memoire, which by its diſcovery

covery ſupplies the *Deſideratum* in that branch of antiquities which this treatiſe had pointed out.

The General's idea, as I conceive it, is, that a *ſide-gallery*, for the rowers, was built out from the ſides of the galley between the waiſt and the water-line, projecting with its under ſide in an angle of 45 degrees to a breadth that would admit of two, three, four, five, or more rowers, to ſit ſo obliquely, in an aſcending diagonal line behind each other, that each rower ſhould be able to work his oar a little to the left in the larboard gallery, and a little to the right in the ſtarboard gallery, of the oar of the rower who ſat immediately below and before him.

By this conſtruction of the *gallery*, by this arrangement of the benches, by this poſting of the rowers, and this poſition of the oars port-holes, every oar deſcended from its port to the water in the ſame angle, and all the oars of courſe would work parallel to each other, without any ſtrain upon one more than another, and with much leſs ſtrain on any than is experienced by the modern way of rowing, from the circumſtances of the oars thus being ſuſpended in part at the ports; although the oars of the upper bench would

be ſomewhat longer than thoſe below (and that but a little ſo), yet very little would be added to the weight of them: by this conſtruction of the gallery, by this poſition of the oar-ports, and by this direction of the oars in rowing, the oars would project very little, if any thing, beyond the projection of the gallery, and that projection, even in a quinqueremis, need not be more than ſeven feet and a half. From this account of the poſition and direction of the oars, it may be ſeen, that when they were laid with the feather horizontally cloſe back up to the under ſide of the gallery, they would avoid the ſtrokes of the waves, and were defended by the gallery from any attack that the enemy might meditate againſt them. But I beg to refer the Society and the Reader to the General's own narrative, where he will find every thing exactly, minutely, and fully explained, from the orignal inveſtigation up to the firſt diſcovery.

That peculiar ſpecies of cavalry, THE MILITARY CHARIOT, was another method, which the Antients, eſpecially the nations in the eaſt, had of applying force in war. Without a diſtinct knowledge of this machine, of the method of harneſſing the horſes to it, of the manner in which

the warriours rode and acted in them, and of the application of this equipage to their exerciſe in their courſes, and to their actual exertions and evolutions in military action in the field, all the accounts of, or reference to, either the one or the other muſt be mere confuſion and inexplicable. Many years ago, I drew up for my own uſe, in my ſtudies, an explanation of this matter; I gave a copy of it to my friend Mr. BERENGER, to publiſh in his Treatiſe on Horſemanſhip *, and it was printed in that work. I have reviſed the original and made ſome additions to it, and now give it here as N° IV. in the Appendix. This containing, as the writer of this paper has been made to believe, a diſtinct and compleat account of this piece of Antiquity; I ſhall enter here no further on this ſubject, but beg to refer the Society and the Reader to that Treatiſe.

I have ſaid nothing in this my examination of the line, in which I think the

* The Hiſtory and Art of Horſemanſhip, by R. Berenger, eſq; Gentleman of the Horſe to George III. king of Great Britain. London, printed for Davies and Cadell, 1771.

A work wherein the Author has combined an art in which he excells, with ſo much erudition, and claſſic knowledge, in which he is eminent, that cannot but adminiſter pleaſure, information, and uſe, to the lovers of that noble art in particular, and to learned men in general.

ſtudy

ſtudy of Antiquities ſhould be directed, as to the ART OF CHRONOLOGY *, or, *the Method of claſſing Facts according to Series and Periods*, under which, in the later times of ancient hiſtory, the memorials of Events were ſuppoſed to be, more or leſs, accurately recorded. It hath always appeared to me that there never was much care taken, or any actual preciſion obſerved, in marking the times of events (even in the courſe of their ariſing and paſſing), according to any of thoſe notices of the concomitant phænomena of the heavens, by which time itſelf is meaſured. I have always found that the defective ſtate of the aſtronomy of the Ancients has been an inſuperable bar to hiſtoric learning, when it hath attempted to trace back the ſeries of ancient facts to their true periods. Several learned Antiquaries have endeavoured to ſupply this *deſideratum* in our learning; but thoſe who know the moſt of it, know beſt its incertainty and deficiency. My conviction of the incertainty of chronology has wrought my mind to very great indifference in diſtinguiſhing between the facts of thoſe periods *called Hiſtorick*, and thoſe *called Mythick*.

* Chronologiæ genus *artem* ſtatuimus non ſcientiam; ſcientia finis eſt chronologiæ ideirco genus eſſe, nequit. Beveridg. Chron.

Without

Without being concerned what the real names of the perſons were, or who they were, who formed the *dramatis perſonæ:* without much caring what were the periods of the drama; I can ſtudy the character, operation, and effect of it, to all the purpoſes of experience and uſe, in the *mythick* full as well as in the *hiſtorick* narrative; and I verily believe, that there is often as true a repreſentation of the general ſtate in the *Mythos* as in the hiſtory, which pretends to give the particular narrative of facts. The only difference lies here, that where the perſons and actions of the hiſtorick period are claſſed under ſeries, having reference to epochas, preſuppoſed to have a fixed period, and keeping a kind of chronologick order, the hiſtory ſo claſſed under chronology, becomes a *topical muſeum* to my memory; and a kind of chart to my courſe in reaſoning on them. This is the difference and no other that the aſtronomer makes, to aid his memory and reaſoning, between the ſtars which are claſſed into conſtellations, and the unclaſſed ſtars.

To explain what is here aſſumed, I will give an inſtance in fact of this matter which this adduced ſimile has brought to my memory.

When

When the Ægyptians firſt formed the map, or picture-deſcription of the celeſtial ſphere, it was done by claſſing the fixed ſtars into certain groups, called conſtellations; and then circumſcribing theſe ſo grouped within a line including that group, they drew the contour of this line ſo as to form ſome imaginary picture of ſome perſon, inſtrument, animal, machine, &c. according to the cuſtom of picture-writing in Ægypt, Arabia, Æthiopia, and Chaldea. One group or conſtellation of ſtars ſuggeſted to the imagination of the aſtronomy-painter the idea of a ſhip, to which the firſt deſigner, or ſome future copyiſts, gave the name Argo, or Ark; within the contour of this picture of the ſhip, many bright ſtars were included, to theſe ſtars, he, or others after him, gave (in memory of their labours and merits) the names of the ſeveral great navigators or leaders of colonies then remembred and renowned in the world. One may ſuppoſe, that ſome Grecian having ſeen this picture, and having learnt the ſtories of the voyages and adventures of each of theſe canonized navigators, and finding all, as it were, embarked on board this one ſhip, made out, or perhaps had it ſo explained to him, a poetic hiſtory of the whole,

whole, as compriſed in one common joint voyage. After all the perplexities about the chronology, geography, and aſtronomy, of his fancied expedition, which according to the common account muſt neceſſarily be inextricable, I cannot but feel ſatisfied, that this conjecture of mine ſuggeſts a natural account of it. Although, however, this is not an actually hiſtorick fact, although it neither is nor can be claſſed according to any one period, or any ſeries of times; yet I can pick out of it as much information of the nature and hiſtory of the navigation, commerce, and ſettlements of the ancients referred to in it, ſeparating the facts, and giving each to its proper actor, juſt as if this Argo was a compilation and collection (like Purchaſe's Pilgrimages, or Dr. Campbell's Lives of our Admirals) of the voyages and adventures of each individual navigator; juſt as if it gave an actual and true narrative. Although the expedition itſelf cannot be true, as related; yet, generally ſpeaking, the particular adventures mentioned in it, if referred each to the individual who performed them, are ſo: and from the traces to be found (as Strabo ſays, in his 1ſt book, pages 21. 45. and elſewhere) in different parts of the world of theſe adventures, they may fairly be ſaid to be facts. From this picture-hiſtory,

or

or fable, thus underſtood, many very curious *traites* of the navigation, and even inland commerce of the ancients, may be elicited and drawn to light.

I cannot but think that many of the facts and things recorded in the picture-writing, and the fables of Mythic hiſtory, if conſidered in this view of claſſed and conſtellated memoirs of the general acts of the race of men in their general operations, and not as actual narratives of arranged chronology, might be explained, as forming a hiſtory little ſhort in point of uſe to thoſe narratives in the early periods of hiſtory, which though conſidered as claſſed in chronological order for method ſake, are not yet to be depended upon as claſſed in the actual period and ſeries of true time.

I do not ſay this in diſcredit of the uſe of chronology; on the contrary, I think that a certain degree of dependence on its authority even in the earlieſt periods may be formed: but I wiſh by the compariſon of the little difference that there is between the chronology of the claſſed traditions of the moſt early hiſtoric, and of the picture records of the mythic, to ſuggeſt how uſeful a work it might be to learning,

learning, and how far from impracticable it is, to unveil the picture records of their fable, and to tranſlate them into *hiſtoric repreſentations of the general operations of Man* in his buſineſs of this world.

The moſt truly learned and grave writers amongſt the ancients, underſtood the mythic hiſtory to be claſſed repreſentations of the general ſtate and actions of man, copied (as Plato ſays) from the *metaphoric* language, in which the traditions were tranſmitted, into picture-writing and fables. I find myſelf ſupported in this notion by a man of great learning and real knowledge, and I aſſume authority from this ſupport, I mean Mr. WISE. He is not only of this opinion, but I find ſince the firſt writing of this, from an ingenious work * of his, which was recommended to me, that he had actually entered upon the reſearch with great ſucceſs, and to every uſe and effect of the chronologic claſſing of thoſe hiſtories which my moſt ſanguine wiſhes went to. If, with the great learning which he poſſeſſed, he had found leiſure to follow thoſe rays of light of which he hath juſt ſhown a gleam, he would have diſpelled from falſe learning

* The Hiſtory and Chronology of the Fabulous Ages, Oxford, 1764.

that

that darkneſs viſible, which has hitherto ſerved only to deform and miſrepreſent every object of knowledge.

Monſieur GEBILIN's *Monde Primitif* enters expreſſly into this line of reſearch with the very ſpirit of analytic inveſtigation, aided by extenſive and greatly varied erudition: ſuch talents promiſe great matters of information on this ſubject; and in in many parts the work makes good thoſe promiſes: I have my doubts about ſome other parts; yet feel rather diſpoſed to ſubſcribe to his ingenuity and great learning.

One general caution muſt conſtantly be obſerved in this mode of reaſoning, that while on one hand we do not refuſe all hiſtoric faith to what is repreſented only in fable; we do not, in the other extreme, receive that *as hiſtoric narrative of actual events* in particular, which is only *repreſentation in apologue and mythos of the general ſtate and courſe of events in the hiſtory of man.* I have illuſtrated the rule in the former part of this propoſition by examples taken from profane hiſtory; I will endeavour alſo to explain this latter by ſome diſtant ſuggeſtions of the nature of this in the earlieſt parts of divine hiſtory.

If

If the Antiquary, as ſome grave and ſerious Divines have done, was thus to conſider the Antidiluvian hiſtory, which the books of Moſes give, as *an* APOLOGUE *exhibiting the general train of natural and human events, claſſed under mythic repreſentations*, inſtead of taking it as *an hiſtoric narrative of particular events*, placed in the actual periods of their exiſtence, and arranged in the real ſeries of true time; he would obviate all theſe objections which ariſe to the hiſtoric part, and might ſhow, that, taken in that view, it gives a much more accurate account of nature, of man, and of the divine diſpenſations; and in every point comes up more fully and comprehenſively to the purpoſe for which it ſeems to have been written, than under any idea of recording particulars as a hiſtory.

This purpoſe is, in a kind of preface to a code of laws by which the inſtitution of a theocracy is eſtabliſhed, to give ſuch a general account of the origin of things and of man; of his deviations from the end of his being by various corruptions; and of his Fall from Innocence to ſuch a ſtate of ſin and puniſhment, as requires the offering of ſacrifices of expiation of his

guilt, and of deprecation of his puniſhment; perpetually repeated until ſome one general full and ſufficient expiation ſhould be finally made and accepted; alſo of offerings for the ranſom of ſouls, and of atonement for crimes. This inſtitution made various regulations in the animal œconomy, not ſo much from any foundation which they had in nature, as being conſtant outward pledges of inward obedience to, and faith in, the divine regimen. One branch preſcribed regulations and diſtinctions reſpecting food, deriving from poſitive inſtitution and command. Another branch of theſe laws meant to give operation to, and to maintain, that excluſive principle of generation, by which this race, choſen for ſpecial ends of providence, were to be kept ſeparate from the race of man in common. A third branch contained the eſtabliſhment of a ſyſtem of ſacrifices ſuited to this theology; and of ceremonies attendant on this particular ſtate of the individual and community.

This book commences with an account of the origin of things, which rightly underſtood, is the moſt truely and ſtrictly philoſophic account which ever has been given, or is at preſent any where extant. The preſent enlightened ſtate of philo-

ſophy can neither reprobate nor alter any thing in it. It does only confirm it.

When this book ſpeaks of the origin of the world, it does not go beyond the bounds of human knowledge into metaphyſicks; it does not attempt to deſcribe that act of the Creator which ſuppoſes the *bringing of Nothing into Being*, which is nonſenſe in terms, and contradicts what it predicates; but in the pureſt light of wiſdom, and in the moſt refined ſentiments of ſublimity, writes, GOD SAID, LET IT BE; AND IT WAS. This comprehenſive expreſſion communicates, without preſuming at defined terms, the indefined præ-exiſtence of the SUPREAM FIRST CAUSE, when *matter* did not exiſt; and alſo the commencement of the exiſtence of matter by the will, and at the command of this FIRST CAUSE *acting by that will.*

This account of a viſible world does not preſume to aſcend above what is ſeen. It takes up the account of the origin of things at that ſtate, to which philoſophic analyſis can, in its higheſt range attain. It divides its account into the four claſſes of exiſtence, the origin of the planetary and terreſtrial ſyſtem; the origin of animal life; and the origin of man. This is

ſuppoſed to proceed by ſix diſtinct periods, called metaphorically Daies (for they cannot *actually* be deſcribed as ſuch before that ſtate of things exiſted, which divides time into night and day). Theſe periods on the whole are arranged rather to ſuit the claſſes of creation, than the order of time; yet under each claſs they follow the order of the proceſs of nature, in what may be called the order of time.

As light or heat is viſibly the firſt material inſtrumental cauſe and ſupport of the ſtate and being of the ſyſtem, the creation of light is repreſented as the firſt proceſs. God ſaid, *Let there be light, and there was light.* This is the *firſt Period.*

Experience of exiſting facts, the philoſophic inveſtigation of the powers of nature, and the operation of thoſe powers on matter, conſpire to prove, that the globe in its original ſtate was a moiſt lump of mud, a chaos in which the terreſtrial elements were all in an indiſcrete maſs of confuſed matter. The Moſaic account of this earth being brought into its preſent ſyſtem of being commences from this ſtate: The earth was without form, and the Spirit of God moved upon the face of the *waters*, and directed the effects of light

light or heat to operate upon it. The firſt effect or proceſs of this operation, which is repreſented as the *ſecond period* of creation, is the ſeparating of the *expanſive* * liquid, the unfixing the elaſtic fluid, the air (the cauſe and food of all life), from the waters which ſtill covered the face of the whole earth; *and God ſaid, let there be expanſion in the midſt of the waters, and let it divide the waters from the waters*; here comes in concurrent in the order of time, and the proceſs of nature; the firſt proceſs of the third claſs, that is, the production of *aquatic* animal life: *And the waters brought forth abundantly.* That this globe was once in this ſtate, *an univerſal habitation for aquatic life*, appears from the ſtill viſible traces and conſequences of this ſtate. The ſhells, the ſkeletons, and other exuviæ of animals, of aquatic life, are found in every part of the globe in the deepeſt vallies, and on the top of the higheſt mountains, even in the bowels of the earth. That they ſhould be ſo found every where, and more eſpecially on the tops of mountains, is ſo far from extraordinary, that it is a natural concomitant circumſtance of this ſtate.

* Liquidum Cœlum. Ovid.

That the *principles* of vegetative life exiſted before the earth was reduced to that form which made it a proper nidus for the vegetables themſelves coming into life, is directly ſaid *, and that the ſame caſe took place with reſpect to animal life, may fairly be deduced from the whole tenor of the account; namely, that the plaſtick *fond* of their corporal mechaniſm was in like manner prepared before it was raiſed like man out of the duſt of the earth.

That the conſtant operation and unceaſing effect of light and heat produces a continually encreaſing exhalation and exſiccation of this globe, ſo that the terreſtrial parts of this globe perpetually gain upon the aqueous, has been proved by the greateſt philoſophers; I need not mention Sir Iſaac Newton at the head of theſe. That internal inflammations and exploſions in the bowels of the earth are, and have been at all times, for myriads of ages back, conſtantly making alterations and inequalities on the ſurface of it, is equally true and fact, ſeen in the effect. Theſe ſecondary cauſes operating inſtrumentally as the act of the Creator, would form this

* Geneſis, chap. II. v. 5.

third

third period of the Geneſis, and throw the earth into ſuch form, that the waters would be *gathered together into one place, and the dry-land would appear.* The moment that the dry-land was thus become a nidus for the vegetative life; The plants and every herb of the field *, the *ſeed* of whoſe exiſtence had been before prepared and made, would now vegetate, and the earth would of courſe bring forth graſs and herb yielding ſeed, and the fruit-tree, and every tree of the field, which is repreſented as the *third period.* Under this ſtate of the globe, the ſecond and third proceſs of the third claſs would in the courſe of nature and the order of time, come into concurrent effect; that is, the fowls that ſwim on the rivers, lakes, and ſeas that fly in the air, and live on the face of the earth; every living thing *after its kind*, cattle, and creeping thing, and the beaſt of the earth, would be brought forth to a life prepared for them, from a nidus which the Creator had animated. This is repreſented as the *fifth period.*

The giving ſyſtem to the ſecond claſs of the God's work comes forward *in this apologue*, not as a narrative in the order

* Geneſis, chap. II. ver. 5.

of time, but as the *fourth period* according to the general claſſing of the parts of creation. This period does not ſeem to repreſent the creation of the planetary ſyſtem, but as deſcribing the effect of the rotation of the earth round its axis, by which day and night were divided, by which the greater light ruled the day, and the leſſer light ruled the night; by which the lights in the firmament became ſigns to days, months, and years, and the variety of ſeaſons, and by which they were produced.

When the whole ſyſtem, thus far perfected, was prepared for man, God *formed man of the duſt of the ground, and breathed into his noſtrils the breath of life*, by which he *became a living ſoul, after God's own image*. This is the *ſixth and laſt period* of the creation. A *ſeventh period* is that in which God is ſaid to have reſted from his work, and which period he is repreſented as having *therefore* bleſſed and ſanctified. The account of the ſanctifying the ſeventh day as a ſabbath, cannot be meant as a narrative of fact, which inſpired truth relates *as hiſtory*, becauſe it is contradicted by a different fact in a different * reaſon given from the ſame authority

* In this day, thou ſhalt do no work; that thy man ſervant, &c. may reſt as well as thou. Remember that thou

thority, for God's ſanctifyingthe ſabbath, or ſeventh day *. It is an application of the apologue in this part, as it is made to apply in every other part, to the theocratic inſtitution of the Iſraelites.

When theſe days are underſtood to be *periods, and not days*, as they are vulgarly conceived and tranſlated; when underſtood to be claſſed rather according to the parts of the general ſyſtem, than placed hiſtorically in the order of time; the Antiquary will find this Moſaic account of the Geneſis of the world confirmed by the facts and phænomena which exiſt in every part of the ſyſtem of the earth and heavens. Nor is this truly philoſophic account involved in any ſuch childiſh, ſilly, ignorant notion as the giving ſo ſhort a ſpace of time to the exiſtence of this globe, as it muſt be confined to, if it literally began not more than a week before that period whereat our accounts or hiſtory of man commence. The author of this book never meant, and does not here or elſewhere give any ſuch idea: The ſpirit of wiſdom and truth which directed this account is raiſed above

thou waſt a ſervant in the land of Egypt, and that the Lord thy God brought thee out thence; *therefore* the Lord commanded thee to keep the Sabbath-day.

* Deut. chap. v. v. 14.

all

all ſuch vulgar unphiloſophic ſtuff. This earth, and this ſyſtem of the heavens, may have exiſted and been going on, in the proceſs of the operations and laws of nature (called here the acts of creation) for myriads of ages, which the Moſaic accounts divided into ſix periods. To this account the internal ſtructure of the earth itſelf bears incontrovertible evidence. I do ſtrangely miſtake all reaſoning, and all ſcale of ideas, if this reference to the ſtate of this earth, and of this ſyſtem ſo explained, is not the beſt commentary to the Moſaic Geneſis: and if the ſublime idea of it will not be the more elevated, and the divine philoſophic truth of it the more demonſtrably confirmed thereby.

If the Antiquary ſhould be allowed to proceed in this line of explanation of the Moſaic antidiluvian hiſtory, as an *apologue*; he would certainly find that the ſecond and third chapters of this book mean to deſcribe the two ſtates in which man hath lived upon this earth, concurrent with the account of the progreſs of his depravation and corruption, and the attendant puniſhment thereof, all accommodated in the moral of the Mythos to the Jewiſh inſtitution. He is firſt repreſented in his ſylvan ſtate, which is repreſented as a ſtate of

of perfection and innocence, living in the garden of the world, on the ſpontaneous fruits and herbs of it, which were given to him for food. The mode of his life is repreſented as regulated by ſome poſitive commands of God reſpecting the diſtinctions of this food. There was one tree, *the tree of knowledge of good and evil*, the fruit of which he was forbidden to taſte.

This is a *mythic* tree (a * ſymbol not unknown to the Egyptians) repreſenting in the luxuriancy of its branches, the wildneſs of mens opinion; and by its tempting but poiſonous fruit, the miſchievous effects of being ſeduced by the vanity of falſe learning, to become wiſe above the ſtation prepared for us.

His quitting this ſtate in which he was originally placed, his growing too wiſe, in his own conceit, for ſuch a confined ſituation, his being tempted to views of a more enlarged ſyſtem by a more expanded ſcope of his capacity; his ſubſtituting the artificial ſyſtem of the land-worker, and ſpoiling a good world, as the Indians of America deſcribe the clearing it to be; his becoming a member of ſociety; the ſub-

* Vide Norden, plate LVIII.

ject--

ject-creature of government; is finely repreſented as his eating of this fruit of the tree of knowledge of good and evil: and the latter ſtate, that of the land-worker, is repreſented as under a curſe, and is made the puniſhment of his diſobeying a poſitive command. This account, taking it as a general claſſed repreſentation, not an hiſtoric narrative, is a true hiſtory of the ſtate and progreſs of man's being on earth, and thus told, is with infinite addreſs made relevant to the maintenance of the ſpirit of legiſlation in the theocracy.

When in the courſe of this mythic hiſtory, this ſecond ſtate of man is deſcribed, as his having the thoughts of his heart on evil only; of the wickedneſs of man being continually great, and againſt the order and ſpirit of GOD's government; how is all this corruption accounted for? It is ſtated as ariſing from a ſuppoſed crime committed againſt a poſitive regulation reſpecting marriage, relevant to a like regulation of the inſtitution of the theocracy, by which the children of Iſrael were forbidden to intermarry with the daughters of men out of their own nation. This crime, an artificial one, *made ſo only by inſtitution*, which inſtitution did not exiſt

at

at that time, is repreſented as the cauſe of all the evil, as the thing in the then race of men which God reprobated, which grieved him at his heart, on which it repented him that he had made man, and on which he reſolved to deſtroy him from off the face of the earth. The crime did not only not exiſt at that time, but as far as the account in this book goes, the act could not exiſt; as there was at that time no ſuch ſeparation of the human being as that of the ſons of God and the daughters of men, either made, or ſuppoſed to take place: The Antiquary therefore will not ſuppoſe that this is meant to be ſtated as a narrative of a fact; but as the *mythos* of the apologue out of which the moral was to ariſe and apply: As the preſent ſtate of the world is repreſented as having by renovation ariſen from the deſtruction of a former one, deſtroyed by an univerſal deluge brought on as a judgement upon a former race of men in conſequence of their crimes, and total corruption; the leading cauſe of that corruption, and the ſpecifick crime which is ſuppoſed to be puniſhed with ſuch exemplary ſeverity of Divine Juſtice, is that ſpecifick act of marrying the daughters of ſtrangers contrary to the expreſs prohibition of a fundamental law of the ſtate, the commiſſion

of

of which would diſſolve and totally break up the excluſive eſtabliſhment of the community choſen, ſelected and ſet apart from the reſt of human race.

The conſidering the preſent ſtate of the world as ſuffering the execution of a puniſhment inflicted by the Divine Judgement for the commiſſion of a crime which totally counteracted and perverted the original ſtate of it, a ſtate originally happy, is not only an example holden forth of God's Juſtice acting by an extraordinary Providence, but is, to the faithful under this inſtitution of the theocracy, the plaineſt and moſt intelligible account of the Origin of Evil both natural and moral, that is any where extant, without being perplexed and involved in any of thoſe metaphyſical difficulties which every philoſophic account conſtantly leads to.

In like manner the underſtanding that prohibition which, after the Fall of man, was given againſt his eating of *the Tree of Life*, as a veiled mythic part of his apologue; not as if it was actually ſuppoſed, that the accretion of any matter, eſpecially of diviſible matter, taken and ſecreted as food, could *in fact* give immortality

tality to the immaterial indiviſible part of man, to the living ſoul which was after God's image; not only relieves the account from hiſtorical and natural difficulties, but gives, in the preciſe line of analogy to the whole, the beſt commentary to it. *A Tree* here, as in the former caſe of the *Tree of the knowledge of Good and Evil*, is *a ſymbol* of man's knowledge branching by various deductions and producing fruit, and may fairly be ſuppoſed to mean here the knowledge or doctrine of immortality, of life in a future ſtate, the belief of which expreſſly counteracts the principles, the doctrine, and ſpirit of an inſtitution of a theocracy, where all rewards and puniſhments, to the reſtoration, protection, and eſtabliſhment of right, were under an extraordinary providence confined within the verge of the preſent ſtate, and preſent life. All theſe metaphyſical diſquiſitions therefore into the immateriality and immortality of the ſoul, all thoſe branchings of reaſoning which produced the fruit of a belief of a future life, and of a future ſtate of rewards and puniſhments, were to be moſt ſtrictly guarded againſt, the mind was prohibited from taſting *this Tree of Life*.

Theſe inſtances of crimes and puniſhments, taken as the narratives of actually exiſting

exiſting facts; theſe deſcriptions of the ſtate of man; theſe prohibitions litterally underſtood, are ſurrounded with innumerable and inextricable difficulties both as to the facts, the philoſophic doctrines, and the general grounds of morality and juſtice. But taken together with the whole of the antidiluvian hiſtory, as parts of an apologue explained as above, the whole gives a real picture of the general progreſs of the ſtate of man; of his particular ſtate under the inſtitution of the theocracy; and is made relavent to the whole code of laws, to which this book is a preface.

I ſhall here cloſe my review of ancient hiſtory; and of the duty of the Antiquary as its commentator; with the examples as above, taken from divine and prophane hiſtory, which I think prove, that theſe hiſtories will be beſt underſtood when on one hand all idea of fact is not excluded from what may be told in *fable*; and on the other, when that which is plainly written as *muthos*, giving a general repreſentation, not a particular narrative, is not taken as a ſtate, or matter of fact. *Tamen nonnulli iſti, Tite,* (ſayeth Cicero) *faciunt imperitè qui in iſto opuſculo, non ut à poeta, ſed ut à teſte, veritatem exigant* *. The ad-

* Cicero de legibus, lib. I. § 1.

ducing

ducing theſe two particular inſtances, gives (in example) explanation and proof, that although * many things in the *manner* and on the *face* of the Muthos may appear fictitious and impoſſible; yet when read aright by thoſe † "*who underſtand a proverb, and* "*the interpretation thereof, who diſcern the* "*words of the wiſe and their dark ſayings,*" they will be found to contain *general Truths which lead to real and effective knowledge.*

It is arrant nonſenſe to ſuppoſe, that a voyage of ſuch importance as the Argonautic expedition is repreſented to be, ſhould have been undertaken as a mere piratical enterprize to ſteal *a Fleece* however precious; but when it is underſtood in the interpretation as an expedition formed by the Greeks, in which the firſt heroes of their country are ſuppoſed to have been engaged, againſt a commercial eſtabliſhment and colony of the Phœnicians or Egyptians, in order to obtain poſſeſſion of that *important trade of the Euxine*; then there appears meaning, good ſenſe, and political wiſdom in that part of the ſtory.

It is impoſſible that the ſame crew, in the ſame ſhip, and in the courſe of the

* Φανερῶς πεπλάσμενα καὶ ἀδύνατα, τὰ μὲν γὰρ ἐν μύθου σχήματι, τὰ δ' ἱστορίας. Strabo, lib. i. p. 62.

† Proverbs, chap. i. v. 6.

ſame voyage, ſhould * penetrate up to the heads of the Danube, paſs the Alps, carry this ſhip and their booty over the portage from the waters of the Danube to the waters which run into the Mediterranean, and deſcending by the navigation of theſe into that Sea; and at the ſame time be ſaid † to have paſſed up the Tanais, then over the land to the heads of the rivers which interlock with this, and then down theſe rivers into the Baltic Sea, from whence by the weſtern ocean, and the Streights of Gades, into the Mediterranean Sea. But when this Fable is in its interpretation underſtood, as I have ſtated it, to be an hiſtorical *map of Commerce, in which the courſes of theſe two routs were principal channels*, the whole becomes plain and actual information.

That ‡ HERCULES ſhould ſail through the ſea to the moſt weſtern bounds of

* Vide Strabo, lib. iv. p. 177. et lib. vi. p. 305.

† Ἀναπλεύσαντας δ' αὐτοὺς διὰ τῆ Ταναΐδος ποταμῶ ἐπὶ τὰς πηγὰς κ) τόπον τινὰ τὴν Ναῦν διελκύσαντας καθ' ἑτέρω πάλιν ποταμῶ τὴν ῥύσιν ἔχοντος εἰς τὸν Ὠκεανὸν καταπλεῦσαι πρὸς τὴν Θάλασσαν· ἀπὸ δὲ τῶν ἄρτων ἐπὶ τὴν δύσιν κομισθῆναι, τὴν Γῆν ἐχόντας ἐξ εὐωνύμων, καὶ πλήσιον γινομένους Γαδειρῶν εἰς τὴν καθ' ἡμᾶς Θάλασσαν εἰσπλεῦσαι.

Diodorus Sic. lib. iv. c. iv. p. 180.

‡ Apollodorus Paryaſis, and Pherecydes, quoted by Macrobius Saturnal. l. v. c. 21. Alſo Servius, &c.

Europe

Europe *in a cup* * ; That ABARIS ſhould make his journey from the north of Europe to Magna Grecia conveyed upon and guided in his courſes, by an arrow; That THE SHIPS OF ALCINOUS † ſhould be animated, and moreover inſpired with a knowledge of their courſe ; is in the ouvert meaning of the literal account incomprehenſible Romance : But if the Antiquary, *poſſeſſed of the fact*,

That the power of the magnet to attract iron ;

To attract and repell it alternately ;

To communicate this virtue to iron itſelf; was known to the ancients ; ſhould by an induction and combination of ſubſequent fragments of facts as they lye ſcattered in the ruins, or veiled, and hid under the myſteries of ancient learning, ſhould be able to collect, which I think may be done ; that its *Polarity* alſo was known to the

* Jamblicus.

† Εἰπὲ δέ μοι γαῖάν τε τέην, δῆμόν τε, πόλιν τε·
Ὄφρά σε τῇ πέμπωσι τιτυσκόμεναι φρεσὶ Νῆες.
—— αὗται ἴσασι νοήματα καὶ φρένας ἀνδρῶν,
Καὶ πάντων ἴσασι πόλιας καὶ πίονα ἀγρὰς·
Ἀνθρώπων· καὶ λαῖτμα τάχισθ' ἁλὸς ἐκπερόωσιν,
Ἠέρι καὶ νεφέλῃ κεκαλυμμέναι.

Homeri Odyſſ. lib. viii.

τιτυσκόμεναι ſignifies being directed as an arrow ; or as by an arrow.

ἠέρι καὶ νεφέλῃ κεκαλυμμέναι. The ſight of the heavens and places of the ſtars was not wanted by ſhips, which had this guidance.

ancient navigators, and guarded by them as a moſt profound ſecret; as alſo, that the knowledge of this came from the * north, and that when the magnetic needle was firſt uſed, it was in the ſhape of an arrow, which it retains to this day; then theſe Fables will, in their interpretation, open to us an *important fact* that will explain many things in the commercial hiſtory of the Antients.

* Where it is called *Lodeſtone*, or the *Pilotſtone*.
Sucio-Gothic Dict. of Ihre.

END OF PART THE FIRST.

APPEN-

APPENDIX.

N° I.

Analyſis of the Elements of Speech, as applicable to Etymology, in the ſtudy of Antiquities.

MAN is endued with a power of expreſſing, or (if I may ſo ſay) taking off copies of the ſenſations, reflexions, and reaſonings, which reſide and paſs in his mind: and of communicating theſe to his fellows by arbitrary vocal ſounds, which have no natural connection with, no not the moſt diſtant ſimilitude to things they repreſent. This effect of ſpeech is ſo univerſal, and ſeems ſo natural in its operation, that to the unthinking unphiloſophic obſerver, the connection betwixt thought and ſpeech will appear mechanical; and indeed nature ſo works in us, that the act of the ſpeaker, and the effect produced in the hearer, ſeem as though matters had been all thus arranged by nature. Speech is by the Naturaliſts ſaid to be the peculiar perogative of man; but I apprehend that this doctrine ſavors more of the pride of

man, than of the humble ſpirit of philoſophy and truth. I ſee, to my own conviction, that all animals, each in their ſpecies, have the means of communicating with each other in all the degrees, and to all the purpoſes, neceſſary to their ſtate of being, analogous to what we call ſpeech. * Beſtiæ ipſæ quendam quaſi modum loquendi inter ſe habent, ut quoſdam motus affectuum ſibi mutuo repreſentant.

I will not, in this place, and at this time, enter into that queſtion. I cannot, however, but wiſh for the ſake of mercy, that we thought more highly of the wretched brutes that have fallen under our power, than we do. If we would exerciſe ſomewhat leſs of tyranny, and ſomewhat more of our reaſoning and morality towards them, we ſhould ſee many things in them that deſerve our pity; we ſhould diſcern in them many *traites* of reaſoning, labouring to underſtand us, when the quarrel between the man and beaſt ariſes from the inſolent ignorance of man. We ſhould receive perhaps ſome impreſſions of the patient-enduring, noble, generous, courageous, and even grateful temper, in them; and we ſhould have the pleaſure of

* Sir T. Smith.
De recta et emendata Linguæ Græcæ Pronunciatione et Linguæ Anglicanæ Scriptione. 1568.

receiving meritorious as well as beneficial ſervices from them.

Various as all the languages of the world may ſeem; and infinite as the words of thoſe languages may be: yet are they all compounded of and reſolveable into a very defined and ſmall number of acts of the voice.

The inventing of characters to expreſs the elements of ſpeech, and render it viſible to the eye, when the analyſis has once led to them, is not a matter of great difficulty; but the being able to inſtitute the analyſis, by which this knowledge was firſt elicited out of the infinity of ſounds, was a real difficulty, that ſeems, even now it is known, wonderful, and above the common range of human underſtanding.

I have heard of many letter'd and learned men who have reaſoned and written diſcourſes on this ſubject; but as it has not fallen in my way to ſee their books; nor to my leiſure to have read many that I have ſeen; nor to my good fortune to receive much ſatisfaction from what I have read; I was led, in my lonely and leiſure hours, ſpent where I had not acceſs to books, to read nature on this ſubject,

by experiments on the articulation of the voice, plotted and ſet down at the time. What therefore, when I was in America, I did attempt to do for my own uſe on my own ground (endeavouring to ſettle ſome etymon of the Indian words) I will now venture upon reviſal to communicate to the public. As I do not ſet myſelf up for, nor aim at the character of a ſcholar, I can have no vanity in this. I riſque the being thought preſumptuous; but as I think my mode of analyſis may chance to lead to ſomething better, I will riſque this. That the reader, however, may not entertain a prejudice that all which I attempted was mere empiricism without ſome foundation in nature, or conducted without any reference to the laws and rules of philoſophy, I will beg to commence my analyſis by the account which Plato gives (in his Dialogue Philebus) of the ſuppoſed analyſis by which Theuth arrived at the knowledge of the elements of ſpeech when he is ſaid to have invented elementary letters, — "Whether the invention of "writing by elementary letters derived "immediately from ſome god, or whether "mediately through ſome divine in-"ſpired perſon, as Theuth is amongſt "the Egyptians ſaid to be; the follow-"ing ſeem to be the human means uſed.

"He

" He firſt applied his mind to the infinity " of vocal ſounds, in the complex mul- " titudes. He then began to diſtinguiſh " theſe into ſimple *vocals* and *articulations* " of ſound. He found theſe to be con- " tained in a definite number. He next " entered into a further diſtinction of " theſe, into unvocal and inarticulate. " And then when by his mode of reſo- " lution thus conducted, through the vo- " cales and articulate, the unvocal and " inarticulate, and the mixt or interme- " diate, he arrived at thoſe *ultimate ſounds* " and *articulations* which could be no " further divided, he not only perceived " that they were definite in their genus " and ſpecies, but in their number. He de- " fined the number of each, and called " theſe Στοιχεῖα or elements, and invented " appoſite Γράμματα ſigns or characters to " expreſs them. Out of this he formed " the art of writing *."

* As I have given above a free interpretation of this paſſage, I here inſert the original. Ἔπειδὴ φωνὴ ἄπειρος καταιόησεν, εἴ τέ τις Θεὸς, εἴ τε καὶ θεῖος ἄνθρωπος, ὡς λόγος, ὁ Αἰγύπτιος, Θεῦθ τινα τῶτων γένεσθαι λέγων, ὃς πρῶτος τὰ φωνήεντα ἐν τῷ ἀπείρῳ καλαιόησεν οὐχ ἓν ὄντα, ἀλλὰ πλείω· καὶ πάλιν ἕτερα φωνῆς μὲν ἄ, φθόγγες δὲ μεδάχοντα τινός; ῥιθμὸν δέ τινα καὶ τῶτων εἶναι· τρίτον δὲ εἶδος γραμμάτων διες ήσαλο, τὰ νῦν λεγόμενα ἄφωνα ἡμῖν· τὸ μὲν τῶτο διῆρει τά τε ἄφθογγα καὶ ἄφωνα μέχρις ἑνὸς ἑκάστου. καὶ τὰ φωνήεντα καὶ τὰ μέσα. καὶ ἃ τὸν αὐτὸν τρόπον· ἕως αὖτῶν ἀριθμὸν ἤδεων, ἑνί τι ἑκάστῳ καὶ ξύμπασι τοιχεῖον ἐπονόμασε, Τέχνην μίαν τέχνη ἐπιφθέγξατο προσιόντι.

According

According to this mode (κατὰ τὸν αὐτὸν τρόπον) I began by conſidering the flow of the air as it comes from the lungs, and purſued the progreſs of it as it paſſed by the organs of ſpeech and was there formed into *intonations* and *articulations* of voice. The firſt paſs whereat the ſound is articulated, ſo as to form an element of ſpeech, is at the glottis and roots of the tongue. There the ſounds G and K, and theſe two only, are formed; G by giving a check to the air, and then letting it paſs with a gradual accelerated motion by the lower part of the glottis; and K by a like check of the air, but then letting it paſs promptly from the upper part of the glottis along the roof of the mouth. To give by a palpable image ſome diſtinct idea of what I here mean, I will ſuppoſe a flowing water ſuddenly ſtopt by ſome ſluice, and then by a drawing door let to flow again, which makes the firſt caſe. A like flowing ſtream in like manner ſtopt ſuddenly by a ſluice, which, with a falling gate, lets the water flow all at once, forms the ſecond caſe.

There is yet another action of the glottis which articulates in a more open or liquid manner, and forms what I would call, in diſtinction to the cloſe g, an open G or Y; of

of which the following are inſtances and explanations at the ſame time. *Gate* a Yate. Eight as the Scotch pronounce it, Eiyht as the Engliſh pronounce it. Dag Germ. Day Engl. Wag Germ. Way Engl. Inſtances of the uſe of this diſtinction between the cloſe g and the open or y, will occur repeatedly in etymology.

This mode of analyſing requires perfect liberation from all prejudged ſyſtem, and more quiet patience, than many, who think they know me, will give me credit for. I mention this becauſe I would not have them truſt me; let thoſe who think theſe ſtudies worth their while, try the experiments themſelves.

The next paſs which the current of air has to go through, is by the middle of the tongue. The air flowing over the tongue approached to the roof of the mouth, while the point makes a ſibilition, produces the articulated ſound S: The ſound flowing in the ſame manner while the point of the tongue makes a rougher vibration and ſtrikes the roof of the mouth, articulates R. The tongue approached to and in contact with the roof of the mouth, as the air is coming forward towards it, ſo as to let the ſound articulated paſs on each ſide of

of the middle of the tongue, produces L. Theſe three are the only articulations which the tongue in this paſs of the ſound can make.

The next paſs at which the air is formed into articulated ſound, is, as it goes forth between the end of the tongue and the teeth or gums. Here again the air being checked by the application of the tongue to the teeth or gums, and then by a ſudden ſtroke of ſeparation being let to paſs forth articulated, forms the two elements D and T; the firſt by an application of the tongue laid broad to, the ſecond by a more pointed application and ſtroke, at ſeparation.

As the air at its laſt paſs goes forth by the lips, theſe organs give it two articulated ſounds, which form the two elements B and P. Here, as before, the air is checked by a cloſing of the lips, and particularly preſſing the nib of the upper lip againſt the under, ſo as by a ſtroke at the ſeparation to let the air paſs articulated into B and P; the firſt by a parallel equal opening, the ſecond by a more angular or pointed opening.

There remain ſtill two other elementary ſounds of voice, which can not properly be

be ſaid to paſs out at the mouth, for they are articulated and ſounded, the firſt with lips actually ſhut, and the ſecond clearly in and through the noſe. In ſounding M, the air is ſtopt abſolutely by the ſhutting of the lips, and is returned up into the noſe. In articulating N, the lips are not actually cloſed, but the air articulated into ſound is returned back through the noſe.

2	The firſt two may be called guttural, or rather for diſtinction ſake, as will be ſeen preſently, I ſhould wiſh to call them glottal —— becauſe I ſpeak of the guttural catch beſides	G. K.
3	The three next lingual —	S. R. L.
2	The two next dental —	D. T.
2	The two next labial —	B. P.
2	The two next naſal. ---	M. N.
11	articulated ſounds.	

Not any one of theſe elements can be pronounced without ſome oral *intonation* annexed to the articulation. Each can be pronounced with five different ſuch oral ſounds annexed, but with *five only* and no more; all equally can have five oral ſounds annexed, but they are yet the ſame *five orals* annexed in the ſame manner. Theſe oral elements can be ſounded as

parts

parts of ſpeech when ſeparated from what I call the articulated elementary ſounds. The others, without an annexion of ſome of theſe orals are not ſounds, but rather the articulated vehicles of ſounds. Analyſis then leads to experiments made of the voice as to theſe orals, ſeparately by themſelves, and conjunctly with all the articulations; and the reſult is that there are but five ultimately diſtinct intonations of voice in ſpeach. A * pronounced in the opening of the mouth by an elevation of the roof and an angular elevation of the upper lip; U by a lowering ſomewhat of the under jaw, and an angular projection of the under lip: E by a parallel opening of the mouth and curvilineal contraction of the under lip. O by an oval or circular opening of the mouth and lips, and I by a ſimple perpendicular ſtroke of the jaws in the enunciation of it.

Theſe *ſixteen elements of ſpeech* are all into which vocal ſound can be ultimately reſolved; and more are not neceſſary nor are found as ultimate elements in any language; the five Nation-Indians of North America do in no caſe uſe the lips in ſpeaking. There cannot be therefore, nor are any labials in that language.

* Vide Plate D in Appendix, No II.

Theſe

Theſe indiviſible elements neither are nor can be pronounced differently (whatever characters they may bear which diſguiſes them) from the ultimate elementary articulated ſound into which the ſound of all languages may be reſolved.

All are, however, by different lauguages, and by the ſame language ſpoken under different climates; variouſly ſurcharged, either by *a guttural catch of the voice*, as they paſs the glottis; or by various *aſpirations* as they paſs off after their articulation; or (as in the ſpecial caſe of M and N) are followed by a rebound of ſound, the conſequence of the form which the organs had taken in articulating them.

Sir T. Smyth ſays, that each nation or race of people hath each its peculiar ſounds, which each reciprocally cannot pronounce exactly. And that therefore there ſhould be different letters to repreſent theſe ſounds. If by letters he here meant characters, the concluſion is fairly drawn; but unleſs he firſt proves that theſe differing ſounds are ultimate indiviſible elements, they do not require different elementary letters. Upon examination (as will be ſeen hereafter) they will all prove to be the ſame elementary ſounds which all men uſe, but

ſurcharged with a guttural catch or an aſpiration, or other mingled adjunct which can be divided from them. Now theſe peculiar enunciations of the elements of ſpeech ſurcharged with theſe adjunct or mixed compounds, ariſe from different forms and textures of the organs of ſpeech, and theſe forms or textures ariſe from different habits of life, or the effects of different climates. Theſe guttural catches or hanging of the voice about the glottis, theſe aſpirations ſurcharged upon, or mudyly mixt with the elementary ſounds, are chiefly found in early barbarous times, and in northern climates, and many of them by degrees wear out of uſe.

In the glottals, being guttural, this catch of the voice became what was properly called the *Digamma*, as having by the catch or hanging of the voice the effect, in pronunciation, of a double G or K. In the linguals this ſurcharge in different nations always preceeded the R: Added a hoarſe ſurcharge, a thick breathing rather than a ſound to S: and doubled L, with a hoarſeneſs coming betwixt (ſomething like but not F.) which no people, that I know, can pronounce but the Welch, as they do when they pronunce Ll.

The

The dentals are in like manner ſometimes ſurcharged with this hoarſe aſpiration, ſometimes with a kind of muddy diſſolvent in the various pronunciations of Dh and Th. The Engliſh pronunciation expreſſes this, which I do not know to deſcribe, but have given examples of in pages 165 and 166.

The labials are alſo liable to the ſame, as in the inſtances of B and Vaw or ev; and P or Phi, Fi, or iph and ef.

As the lips are cloſe ſhut at the articulating and pronouncing M; when they open, after if it is enounced, they ſeem to give and add to it the rebound of B or P mute, and thus we Engliſh in many caſes pronounce it, as thumb and comb; as ſwamp, from the old word ſwamm; where, as Ihre in his preface to his Dictionary ſays, P additur à fine.

The ſound of N, in pronunciation, can ſcarce go off with a rebound of the voice in a ton ſomething like to g or k adjunct; the French pronunciation hath this very ſtrong.

The ancient Helleniſts had not originally many of theſe ſurcharged adjuncts in their

enunciation, and uſed but one borrowed character to expreſs them all, the character, *F*, *f*, the Æolic di-gamma. It partook of H, F, V, G, J, Y and our W ſounded *ou*, juſt as the ſurcharge, at the time, and in the caſe, happened to be initial or final; mixt with and adjunct to conſonants; or inſerted between two vowels.

Dionyſius Halicarnaſſus * mentions not only the form but the power of the *digamma*, which he ſays was a character reſembling the double [Γ], gamma, as *F*; and had a ſound when prefixed to a vowel beginning a word, ſomething like *ou*: He then gives an example or two. Speaking of the low ſwampy places which the Aborigines in Italy aſſigned to the Pelaſgoi upon a treaty with them, he ſays thoſe places had τὰ πολλὰ ἑλώδα, which, according to the ancient pronunciation, were called Ὄέλια, Wallia, Felia, or Velia, or Vallies: Thus οἶκος, written *Foῖκος*, was pronounced Vicos, or Wicos, the radix is Wic.

* Σύνηθες γὰρ ἦν τοῖς ἀρχαίοις Ἕλλησιν, ὡς τὰ πόλλα, προσιθέναι τῶν ὀνομάτων, ὁπόσων αἱ ἀρχαὶ ἀπὸ φωνηέντων ἐγένετο τὴν οὐ συλλαβὴν ἐν στοιχεῖω γραφομένην· τοῦτο δ' ἦν ὥσπερ γράμμα δίγλωττον ἐπὶ μίαν ὀρθὴν ἐπιζυγνύμενον ταῖς πλαγίαις ὡς Ϝιλιυη. ϗ Ϝάναξ ϗ Ϝοῖκος ϗ Ϝανὴρ ϗ πολλὰ τοιαῦτα.

Lib. I. Antiq. Rom. Edit. Sylburgii, p. 16.

When

When in after-times theſe Helleniſts began to analyſe their language with ſome ſcientific attention, they invented characters to expreſs ſome of theſe mixed ſounds, as χ, θ, φ, ψ, ξ, ζ, and ſo refined the reſt, as that the Æolic digamma ceaſed to be of uſe or in practice with them.

What I have ſaid muſt depend upon fact in ſuch inſtances as the learned reader ſhall meet with. I, an unlearned labourer, will give ſome examples, or proofs, of what I here venture to aſſert. To begin with the gutturals of the glottal elements. Both G and K are ſurcharged frequently with a catch or hard breathing, which the ancients either ſuppoſed to be a hanging or catch of the voice, and therefore expreſſed by a Di-gamma or an aſperate, and ſuppoſed an h to be the adjunct of this ſurcharged pronunciation, in the firſt caſe they uſed the *F* or Ϝ; in in the latter Γ or Gh and χ or Kh and double *F* or ff.

The ſurcharge in the pronunciation of the Linguals R, L, and S, was various, as ϱ ρ, or F ϱ, or B ϱ, or H ϱ. L was doubled and had the digamma under the ſound of F interwoven as L F L. S had h or rather ch adjunct to it, but in my opinion, formed on repeated experiments,

and in the opinion of a much better judge than me, I mean the very learned Sir T. Smyth, neither *h* as in Engliſh, nor *ch* as in German, anſwer the ſound of *Sh*. The open g, or y, the true di-gamma, is what here makes the proper adjunct. Neque ſonus ille [inquit Smythius de rectâ et emendata Ling. Angl. pronun. et ſcript.] quem nos proferimus dum *illam* (i. e. She) aut fraxinum (i. e. Aſh) dicimus, rectè, per *She* et *Aſh*, conſcribitur, nec enim verus et genuinus ſonus utriuſve literæ auditur, nam deſit τῷ *S* ſerpentinus ille ſibillus, et τῷ *h* grandis et violentus afflatus. Sed quidam intermedius et *mixtus ſonus* perſentitur. Vide autem quantum a vulgi opinione differt judicium meum, et ut intelligas clarius quod volo, primum ſona illud quod apud nos [viz. Anglos] infernus appellatur, *Hell.* ſerva ſonum hunc integrum et prepone *s*, *s-hell*. Ita ſona quod appellimus *hall* et prepone s. s-hall. Vides non ſonari illud quod nos *concham* noſtrâ vocamus linguâ, nec quod eſt futuri temporis ſignum noſtratè. At nunc è contra ſona quod nos noſtrâ linguâ *ejulare* dicimus, ſcil *Yell.* et idem quod de canibus dicitur *Yaul*, et prepone *s.* ſervando ſemper priorem ſonum, ut unam tantùm ſyllabam faciendo, et invenies *ſyell* et *ſyall*. Quæro nunc abs te, mi Quinte, uter ſonus propinquior

pinquior ei quem pronunciamus cum volumus dicere *anglice* concham [Shell] et ſignum temporis futuris [ſhall]. Profectò hæc poſterior per S et Y—In the examples which I ſhall give preſently, the reader will have frequent occaſion to obſerve that Y (open G as I call it) ſounded as we Engliſh ſound it, occurs more often as the true ſound of the di-gamma than any other.

In like manner the two dental elements D and T are liable to be, and are actually, ſurchaged with an adjunct ſound, which is commonly ſuppoſed to be a mere aſperate, and ſuppoſed alſo to be expreſſed by *h*, as Dh and Th. And the Greeks, as is ſuppoſed about the time of the Trojan war, invented the character Θ and θ, to mark the expreſſion of this mixed ſound Th. But no character was, as I underſtand, ever uſed to mark the ſurcharged D, or Dh. And yet after all, this θ does not fully anſwer with preciſion to the caſe in which it is applied. T with the aſpirate h adjunct to it, has a very different ſound from the θητα and the δητα, both which are not only different from it, but from each other. I will give examples of this from our Engliſh, Saxon, or Deutſch language, which I may fairly do, as it will

appear that theſe derivatives obſerved and preſerved the orignal pronunciation; when I ſay that *h* as the aſpirate is *adjunct* to the d or t, I follow the expreſſion of my learned maſter; non dicimus permiſceri literas, ſed adjungi; now that h thus adjunct to d, or t, does not give the very different mixt ſounds which we perceive in the words, Ta'en, Thane, Than. Tea, The, Thief. Tye, Thigh, Thin, Thine, Thy. Taw, Thaw, Though. Tum, (the Latin word) Thumb, Thus; Tun, Thunder, nor either of them; try it by my maſter's reſolution and compoſition, ſound firſt e, then *h he*, then adjoint to this the diſtinct ſound of *t*, preſerving the unity of the ſyllable and your ear will receive t'-he, and ſo of the reſt; but if deſirous to proceed further, you would wiſh by this means, by this T and h adjunct, to expreſs the two very different ſounds which Th has in the article *The*, and in the word *Thief*; this adjoining of *h* either to T or D will never do it. This is a peculiar *permixt ſound*, which I believe will appear the Greeks never had in uſe or any notion of, nor the northern people whoſe language they originally ſpoke, for by the words in German which are clearly Greek, the ſound is T'h and D'h.

Ana-

Analogous to what occurs in theſe, a like ſurcharge operates on the two labials B and P; and here again the note of aſpiration, or the general mark of the digamma variouſly ſounded, is ſuppoſed to ſerve for the peculiar expreſſion. P is muddied into Ph or F, and B into Vau or W.

This digamma bearing the ſemblance of G or Γ, at the beginning of words was emolliated into Y and W, and often in the latter end of words into Y, W, or ff,—thus Ἄρης made both warr and guerre; dag, day; octo, eight, eiyht; daughter, dawter; laugh, laff. This digamma with the ſemblance of G between two vowels is ſeldom pronounced as G hard, but as open G, or Y, or as V, or as H, of all which there are examples in the ſame word pronounced in different languages.

I have ſaid, and upon repeated tryals I am perſuaded to adhere to my opinion, that there are but ſixteen ultimate indiviſible elements of ſpeech within the power of mankind; for although, from the various uſe and texture of their organs of ſpeech, they may aſpirate, confuſe, or ſurcharge theſe; yet whatever ſounds they enounce, ſuch ſtill remain diviſible to thoſe ultimate elements. The variety of dialects

and languages, however, ariſe from the interchangable uſe of the elements of the ſame organ of ſpeech, from the mixing of them with each other, and from the ſurcharging them with the various modes of aſpiration. Thus one race or nation of people is inclined to uſe G inſtead of K; or K inſtead of G; D inſtead of T; or T inſtead of D; B inſtead of P; or P inſtead of B.

By an attentive examination of the peculiarities in enunciation which each people have, in the one way or the other, by a fair reciprocal analyſis of the agnate words they reciprocally uſe, I think a much greater *agnation* may be found amongſt all the languages in the northern hemiſphere of our globe, and much more philoſophic *derivation* of theſe from ſome other languages may be deduced than is commonly thought to exiſt.

This ſort of analyſis, this reſolution and compoſition of language into its elements, univerſally purſued to its etymon, ſeems to me the duty of the antiquary, and would give great light to the ſtudy of antiquities.

From the following liſt of words, which I write down more as examples to illuſtrate, than

than as teſtimony of proof, will be ſeen how the words, which are therein inſerted, although they ſcarce ſeem to have the leaſt ſimilitude, yet prove to be the very ſame words ſpoken with the ſame elements differently aſpirated, mixt, or ſurcharged with adjunct ſounds. The reader is deſired to recollect the ideas given of the various tones of the digamma, and of the aſpirate Th and Dh, and of G, and what I call open G or Y, with more particular attention.

Αια, ια, Εα, Ey, all ſignify in their termination land or country; and pronounced with the guttural catch become Γη and Γαια.

Ϝεαρ, ver. with the digamma Y, is *year*.

Ϝια, gramen with the aſpirate, is *hay*.

Ϝετι, with the aſpirate, is in Swediſh, *T'het*, with the digamma Y in Engliſh, is yet.

Αϝολος verſutus, with the digamma W, is *Wyley*.

Αηρ muſt have been ſometimes pronounced with a digamma, inſerted between the two vowels, whence it produced Ae(th)er, Æther; we ſhall meet with more examples of the ſame.

Ϝαρης, Mars, with the digamma W, is war; with the digamma G, is guerre.

I believe

I believe it will be found that G was by different nations, ancient as well as modern, commonly pronounced as I and Y, or open G, as I call it, and ſometimes W, and ſometimes K.

Γονυ = Genu, K'nee.

Γύλιος = vaſculum militare viaticum, Wallet.

Γερανο = Grus, Yheran, Swediſh; or Heron, Engliſh.

Γαυσοω = facere curſum tortuoſum, to *yaw*, ſaid of a ſhip, when ſhe runs a tortuous courſe.

Γεσον = ſuggrundium tecti, *Joiſt*,

Γένειον = mentum, Djin or *Chin*.

Λεſειν = colligere, German, legen. Old Engliſh, *lig*, now *lay*.

In like manner, thoſe words which are in Swediſh, written and pronounced with G or J, are in the Engliſh derivatives written and pronounced as with Y, being ſo ſounded in the original.

Swediſh.	Engliſh.
Gabb = irriſio	Yabb or Yape
Garn = lana	Yarn
Gule = flavus	Yellow
Ju = tu	You
Yern = Ferrum	Ir'n
Jo = imo	Yan, Yea, or Yes

Jul

Jul = Nativitas Chriſti	Yule
Jull = Cimba	Yaul
Junker = Juvenis	Younker.

Hj is the aſpirated *i*, which the Engliſh pronounce as with a mute y after H.

Swediſh.	Engliſh.
Hjelp	Hyelp
Hjelm	Helm
Hjert	Heart
Hjord	Herd
Hjul	Wheel.

Whenever in foreign words G or Gh termines, we ſoften this by opening G to Y, as in the common termination Lig, we open it to Ley; Laugh, Cough, we pronounce Laff and Coff; Daughter, Dawter, and ſo on. Dock, T'hough; Tag, Day; Wag, Way.

When the G as a digamma is inſerted between two vowels, I believe it is always opened, as Vo(g)el, Fo-el, Fowl. When one ſees that oeil and oculus are agnate words, ſignifying the ſame thing, one cannot doubt but that o-eil was pronounced with an inſerted digamma like vogel, or like the Swediſh Hagel, ſoftened by the Engliſh into Ha'yel, now ſpelt Haile; as thus,

thus, o(g)eil, and in fact we find it ſo in the word *ogle*.

The Greek Ῥύην makes the Latin T'ra(h)are and the German D'ra(g)en, and the Engliſh draw or drew.

Now Ῥύω was certainly aſpirated, and had in pronunciation a digamma, which was neither a determinate *h* nor *g*— take the open ḡ or ȳ, and the derivation, or rather agnation, is clear in all the languages.

Our anceſtors the Saxons had a peculiar method of pronouncing the aſpirated D and T, in a way in which the original ſound was well nigh loſt. Although we are in common taught to think that in theſe we uſe the true Greek pronunciation of the θ, I am apt to ſuſpect we are miſtaken, and that θ was ſcarce ever pronounced as we uſe it; for inſtance, Θεος made D'eus, or T'eus, and not Theus. So the name of the Punic city which the Romans wrote *Carthago*, was *Keir-Dagon*, or Thagon the *City of Dagon*, in the ſame manner as *Beth-Dagon*, the Temple of Dagon is written by the Greeks, Βηλαγων and Βηθδαγων. 1 Maccabees, c. x. v. 83.

Ἄγαθος

Ἀγαθὸς makes got or god, and not goth.

Θῆρα, Fera Silveſtris, makes T'hier and Deer, not Theer.

Θύρα Oſtium, makes T'hu'r and Door, not Thoor.

Θοίνη Cæna, epulum.—D'hin, Dinner, and not thinner.

Θεῖναι operare,—T'heinen, T'huen, or to do.

Θαῤῥεῖν audere. Saxon, Dearren. Engliſh, Dare.

The Teuts always ſo pronounced Th and Dh, and the obſerving this ſimilarity betwixt them and the Greeks will explain many matters of Etymology.

German.	Swediſh.	and Engliſh.
* T'hal	D'al	Dale
T'hole		Dole
T'hau	Dagg	Dew
i. e. ros.	D'augh	
T'haller	Daller	Dollar
T'heil	Del Pars.	a Deal
T'heilen Partire.	Dela	to Deal
T'hum	Doma Judicare.	Doom

* The ſame as the old Greek Δαίλος. See Strabo, Lib. ix.

Din

	Din	Thine
T'hunder	D'under	Thunder
T'hon		Ton
		a Sound

In like manner we find the ſame word ſignifying the ſame thing originally, both in Greek and German, the one ſpelt with the dental T, the other with the dental D. Τεῖχος and *Dyke*, alſo Δέειν to *Tye*, ſo Πᾶτὴρ, φαθὴρ, ſpoken *Vadher* or *Father*.

In like manner Πατὸς (from πατέω calce-conterere) ſignifies via concalcata and trita, Engliſh, *path* or *pad*. So Πτέρον (quaſi πέτερον) aſpirated φέθερον, *feather*.

There can be no doubt that Βόος from ϝᾶς was pronounced with an inſerted digamma, when we find it in Latin Bovis, and in French Beuf, and in Engliſh plural Beeves. So Οἶς, Ovis. Dr. Bentley in a note, ad Lib. 23. Od. Horat. ſays, Ὕλη per digamma Æolicum, Ϝύλη, *Silva*.

The Æolians were ſaid to prefix B before P. Of this we have ſeveral inſtances in illuſtration in the modern northern languages. Ῥυτῆρ, Æolic Βρυτῆρ, Frænum, a *Bride* or Bridle.

Ῥάχος

῾Ράκος and ῾Ράγη } Æolic, Βράκος, a Break or *Breach.*

Alſo Ράμνος, Æolic, Βράμνος, a *Bramble.*

῾Ρύαξ, Æolic, Βρύαξ, Rivus, a *Brook.*

Here follow three inſtances of B aſpirated into Vaw; in the firſt inſtance ſpelt by Pf; in the ſecond by V.; in the third f and v.

Βέλος, Tellum ſagitta. *Pfeil*, an *arrow.*

Βρὶ, a particle ſignifying exceeding, but chiefly as prefixt, hence *very.*

Λείπειν, linquere. Saxon, Lifan. Engliſh, to *leave.*

Inſtances of the digamma ſounding as our W, or the Saxon ƿ.

῾Ϝον, Tactum, won. to *wonn*, to dwell.

῾Ϝοαρ, Mulier, Whore.

῾Ϝολος, totum. Whole.

῾Ϝον, neuter of ὅς. One, ſounded Wone.

Οἶκος Wic.

Οἶνος, vinum, Wine, and in Welſh, Gwine.

῾Ϝδωρ, Waſſer, and Water.

῾Ϝλη, ῾Ϝλώδης. Silva & locus Silveſtris. Weal. Weald.

῾Ϝφάω & ὕφη. Woof and weave.

In the word Κοῖλος, as uſed by the Engliſh in the word agnate with it, there remains

remains the guttural catch before the aſperate, the northern pronunciation for a hole, is a hoil, with ſomething of a catch, as Ghoil.

From theſe *Principles of Reſolution and Compoſition* applied to the elements of ſpeech, as I have ventured to apply them; and from the few examples which I, who do not pretend to be a linguiſt, have adduced; I think the learned Antiquary who is a linguiſt, or rather ſome ſuch correſponding Society as I have ventured to ſuggeſt the idea of, would ſoon eſtabliſh a philoſophic Polyglott that would ſerve all the uſes of an univerſal language, and, what is of better conſequence, would be practicable and practical.

N° II.

A Treatiſe on Picture Writing, Hieroglyphic and Elementary Writing, ſhewing how the firſt aroſe from Nature, the ſecond from Art; with an Illuſtration of the Effects which theſe have had on the Deviations and Mutations of Language, in a Letter to Thomas Aſtle, Eſq; Oct. 25, 1778.

Read at the Society of Antiquaries, Jan. 18, 1781.

SIR,

AS you acquainted me, that you was employed in making a collection of Specimens and Exemplars of all the various modes of writing practiſed by various nations, from the earlieſt to the preſent time; that you ſhould * publiſh theſe in drawings,

* This collection is to conſiſt of Specimens of the Phœnician, Chaldee, Hebrew, Etruſcan, Greek, Oſcian, Roman, Gaëlic, Welſh, Iriſh, Gothic, Iſlandic, and Anglo-Saxon Writing, taken from original MSS. and other ancient Documents now preſerved in public Repoſitories, and private Collections: in the courſe of which is to be illuſtrated by examples from ſimilar materials, The progreſs of writing in Italy, in France, in Germany, The progreſs of the Saxon and Norman writing in England, as alſo of the writing in the *Engliſh Language*, from the earlieſt times to the reign of queen Elizabeth, with ſpecimens of the char-

drawings, copied *per factum ſimile*; that you ſhould accompany this with obſervations on each, and with a Treatiſe on the whole, in which you ſhould be naturally led by your ſubject to take ſome notice of the origin of writing; and recollecting ſome opinions of mine, contained in a paper read about three or four years ago at the Society of Antiquaries, you deſired I would look it out and let you have it: it is with the greateſt readineſs and pleaſure that I comply with your requeſt, and ſend you the following Treatiſe, a new draught, extracted chiefly from that paper.

A knowledge of the methods by which mankind in primitive times realized by viſible images their ideas; ſo as to place them under the eye, and to fix them permanent in time, is a ſource of curious inveſtigation to the Antiquary.

The firſt efforts which men of all races, and in all countries, have made to this

ters of each ſovereign, from William I. to Henry VIII. As Mr. Aſtle has a peculiar turn for, and great information in this branch of learning; as he has one of the beſt private Collections of theſe materials; and as being keeper of the Records, and, with Mr. Topham, has the care and cuſtody of the State Papers; there is no perſon can have greater opportunities; the expectations of the world muſt therefore be raiſed for this publication.

purpoſe,

purpoſe, have been made, not as the elementary writing is, by *pictures of their words*, but by *portraits* of their ideas, and alſo (as well as they could deſcribe them, by ſigns and metaphors) of the circumſtances, relations, actions, and effects, produced and ſuffered in all combinations, juſt as they lay conceived in the mind. The very language of theſe unlettered people is conducted by *metaphors* and *allegory*; the tranſcript therefore into viſible ideas could be nothing but the *pictures* of theſe images. This reaſoning is derived from fact; let us ſee how the fact ſtands.

The American Indians do thus in fact. When they would deſcribe their nation, their country, time, and the ſeaſons; actions of any kind, journeys by land, or by water; war and its operations and glory, peace and its bleſſings; planting or hunting; they draw or paint ſome viſible characteriſtic objects. They uſe, to deſignate their tribe or nation, ſome fixt ſymbol, generally taken from ſome animal, whoſe acts are deſcriptive of the particular character which they aſſume or aſcribe to their tribe, their race, or nation; ſome viſible known mark, characteriſtic of the ſort of region which their country is. Time they deſcribe by the picture of the ſun or moon or ſtars: The Seaſons by that of a

tree in leaf; the fall by a tree without leaf. As their journeys are moſtly made along the rivers, they generally deſcribe their journeys or excurſions by a conoe; not but they do ſometimes, to expreſs travelling by land, draw a * foot; or, if by land in winter, a ſnow-ſhoe. War they commonly expreſs by the hatchet or ſcull-breaker: Enemies killed by ſcalps, priſoners taken by withies or bands: hunting by the animals of the chace: The making peace by the burying of the hatchet, and a ſtate of peace by any thing which denotes their planting ground, as a wigwam and corn. They aſcribe characters to animals, according to their ſpecific nature; and, to deſcribe the characters of men or nations, they give the portrait of thoſe animals whom they ſuppoſe as of notoriety to have ſuch characters.

Thus, the names given to remarkable characters have always this reference; one is called the eagle; another the wolf, the fox, the tortoiſe, the bear, the ſerpent, the beaver; they make reference alſo to inanimate viſible objects, as, the ſwift arrow, light, &c. &c. and theſe animals or viſible objects become the picture-name of ſuch perſon; of all which I have known inſtances. Thoſe circumſtances, and that general ſtate of things (to expreſs which

* The Ægyptians do exactly the ſame.

in

in ſpeech they have no general and complex words), they deſcribe by reference to viſible images, bearing ſome ideal ſimilitude of, or alluſion to ſuch. The reſolve, or act of going to war, they expreſs by the phraſe of "*taking up the* "*hatchet* *, or *ſtriking with the hatchet*;" the termination of war, by "*burying the* "*hatchet*;" a breach of peace, or a renewal of war, by "*digging up the hatchet* "*that was buryed*;" *a ſtate of peace*, by "*a tree* in its full vegetation, giving "ſhelter, and bearing fruit;" the act of condolence, by "*wiping off the tears from* "*the eyes*;" an act of reparation (with them always preceded by the act of condolence) is expreſſed by "*waſhing off the* "*blood*, and by *preſenting preſents to heal* "*the wound*;" acts of oblivion, by the "*covering the actions with a blanket*;" acts of explanation, by "*preſents, to wipe the* "*film off the eyes.*" Nor are theſe acts confined to the ideal metaphor only, they are always accompanied by the preſent of a blanket, linen, or wampum, wherewith ſuch act is ſuppoſed to be performed. In what I have here referred to, I ſpeak of things of common notoriety, as generally and univerſally occurring in their treaties.

* This means in general the ſcull-breaker. The French tranſlate it Caſſe-tête; our interpreters tranſlate it hatchet, as that inſtrument is now uſed for that weapon.

When they would write this, or repreſent it to the eye, what can their writing be but theſe images forming a picture? Exactly in this manner, in the picture-hiſtory of the Indians of Mexico, publiſhed by Purchas, you will ſee the ſtate of the ſettlement of a town or diſtrict repreſented by a tree; and the reduction of that ſettlement by force of arms to a ſubject ſtate, by that tree being cut half through. The number of notches in that principal cut either ſignifies the number of ſtrokes which it ſuffered before it was reduced to that ſtate, or elſe the proportion of tribute it was under that ſtate obliged to pay. There is one inſtance where the tree is cut quite up by the roots; and one inſtance wherein the ſymbol of ſpeech, by the repreſentation of the tongue (as thus), is given to a tree half cut through; by which I underſtand, that the picture-ſymbol means to expreſs a ſurrender on capitulation.

You alſo ſee under the ſame metaphorical conception, in Plate LVIII. of Norden's Travels, a picture-repreſentation of a treaty, on a fragment of a very ſingular Bas-relief, expreſſed by two perſons negotiating by mutual reference to a tree that ſtands between them, on which tree is hung a tablet of an oval form, with the ele-

elementary characters on it, as in plate C. fig. 3. By theſe inſtances the reaſoning and example come hand in hand to the deduction of the fact. Obſerve here, that the courſe of the writing is in the perpendicular line, and I think ſhould be read upwards.

In like manner ſome allegorick picture of this very kind would beſt, at leaſt very ſufficiently and compleatly, expreſs the metaphorical repreſentation given by the Kenunctioni, or Five-nation confederacy, of their original ſtate of alliance with the Dutch and Engliſh. This original and firſt intercourſe which they had with us Europeans, they expreſs in their language by " the arrival of *a great canoe on their* " *ſhores, or on the bank of ſome river.*" The firſt act of their friendſhip they expreſs by " the *tying this canoe ſafe and* " *ſecure to a tree on the ſhore or banks.*" This ideal tree they call the tree of peace, protection, friendſhip, happineſs, &c. In their tranſactions and treaties they uſe a multitude of variations of this apologue. They call the ligature, by which the canoe is tyed, a chain. *Good faith* is expreſſed by " *the chain being kept bright*;" and the contrary by " *this chain contracting* " *ſome ſtain or ruſt*;" a renewal of this old friendſhip by " *brightening and clean-*

" *ing this chain.*" This chain was at firſt, as I have ſaid, ſuppoſed to be faſtened to ſome tree on the banks: Afterwards, as this alliance extended itſelf more and more into the concerns and intereſts of the country, they expreſſed this circumſtance by ſaying, " *they had planted the tree of* " *peace further back into the country.*" When they would expreſs a more ſolid perpetuity of peace, they then marked that, by ſaying, they would " *make the chain* " *faſt to ſome mountain* in the country. Finally, when this alliance became general and *national*, they then expreſſed this ſtate of it, by ſaying, " *that they had* " *lengthened this chain, and had carried it* " *up to their great council-houſe at Onon-* " *daga, where they had made it faſt.*" This is invariably, in their language, the picture of their ideas of the original friendſhip and alliance with the Dutch and Engliſh. Any new treaties ſet on foot with the Europeans, after they were ſettled in the country, they expreſſed by " *fixing a place* " *where they ſhould light a fire,*" always to be kept alive, not an actual, but metaphorical or allegorical fire. All the changes, accidents, interruptions, &c. of this ſtate of union and communion are expreſſed by the care taken in preſerving this fire; by its burning bright, or by its being neglected and

and becoming ſmoaky and ſmothered. And if they do ever renounce that particular treaty or ſtate of union and communion, they expreſs it by "*putting out the fire.*" I heard at the treaty at Albany, in 1754, the great * Tianhôga uſe this expreſſion to the Dutch Commiſſioners at Albany, when he, on the part of the Five Nations, refuſed any more to treat with them. The Indians have in general ſome ſtrange myſtick, but undefined † notion of the pervading ſpirit of fire; and a communication of, or communion in, this ſpirit, amongſt parties contracting, is with them the moſt ſolemn ſacrament, of the higheſt form. Thus, the ſmoaking one common pipe of tobacco, ſo that all the contracting parties become participants of the ſame fire, is one of the moſt ſacred acts of Faith pledged. The pipe uſed on this occaſion is not a common one, but one prepared for the purpoſe, painted and ornamented always with feathers, and generally with embroidery of porcupine-quills. It is called the *Calumet*, and is lodged by the propoſing party with the

* Vulgarly called, by a Chriſtian name, *Henderick.*

† One ſees this undefined idea well depicted in the ſpecimen of Indian picture-writing given by Dr. Robertſon, viz. an undefined, unfiniſhed, imperfect figure, exiſting amidſt flames: the hand (marking effect!) is drawn diſtinctly, the reſt indiſtinct.

party

party agreeing, as the moſt ſolemn record of that treaty ſo made and concluded. This calumet is to be kept ready for ſmoaking upon any future uſe made of, or any reference had to, that treaty. The Indians are very attentive to preſerve this; but we, who call ourſelves civilized, never think more of it. And it is generally given away as a curioſity to ſome perſon or other. I had one of theſe calumets, which was thus lodged with my friend Sir William Johnſon, on a very ſolemn treaty with ſome of the weſtern Indians; it was given to me after his death; he would not have parted with it. Eſteeming it a ſingular curioſity, perhaps unique in this county, I gave it to Mr. Horace Walpole, and I ſuppoſe it is in his cabinet at Strawberry Hill. Again: as every act of communication, and every propoſition made, is pledged by ſome token given, which token generally was *Wampum*, *Beaver*, *Blankets*, or *Deer-ſkins*, &c. &c. and as the importance of the propoſition is eſtimated by the value of the token attending it, ſo a ſtring, or two or more ſtrings, or a belt of wampum, expreſſes the leſſer or greater importance of the propoſition made, or act done. On ſome very important occaſions, theſe belts of wampum had ſome device woven in them. The great belt of wampum, given by the Britiſh Commiſſioners

miſſioners of Eleven Provinces, met at Albany in 1754, to the Five Nations, was near a fathom long, and about a hand's breadth. At one end were the figures of eleven men, hand in hand; on the other, five men alſo hand in hand. Theſe two groups were connected by a line repreſenting a Belt of Treaty. I prepared and directed the deſign of this belt. The Indians were much pleaſed with this attention to their manners; and this belt (I dare ſay) is kept at this day very ſacred in the Council-Houſe at Onondaga, *as a record* of that great treaty, and renewal of alliance.

Let any one recur back to the metaphoric and allegorick deſcriptive images by which theſe people thus in their language and repreſentative actions expreſs ideas for which they have no general words; and let him then ſet about to repreſent them by writing to the eye; whoever does ſo, *will naturally write their hiſtory by a ſeries of pictures*, which will better expreſs the ideas in which it is conveyed, than any elementary writing whatſoever could do, was he arrived at the uſe of ſuch. This ſtate of the matter is confirmed by a curious fact. In the ſpecimen of the copy of American picture-writing given by Dr. Robertſon, in his Hiſtory of America, you will ſee many of theſe poſitions verified; particularly, you will ſee

two

two warriors holding a belt, and negotiating. In another place, two warriors offering preſents to a third warrior. In another part you will ſee a ſymbol of the ſpirit of fire, deſcribed by an undefined image, rounded with rays or flames. In another part is the War-kettle boiling, with the ſcalping-knife laid acroſs it, and a warrior performing ſome ceremony before it. In the ſpecimens publiſhed by Purchas, you may read (if I may ſo expreſs myſelf) many others. I have ſeen on deer-ſkins, and on Indian powder-horns, inſtances of this mode of picture-writing. I have been told of the ſame ſort of picture-writing on the bark of trees, particularly the birch-tree, a tree uſed much by them for various domeſtick and field purpoſes, and with which alſo, in general, they make their canoes. I do not recollect myſelf to have ſeen any of theſe, at leaſt not ſo as to have been ſtruck with them; but I have been told of them by Sir William Johnſon; and I will give you teſtimony from another perſon, who was perfect maſter of the Indian affairs; I mean the late lieutenant governor Colden. Speaking of the Indian cuſtom, of their having a rendezvous, where the warriors aſſembled before they went out to war, he relates, "that before they go from this place *, they

* Hiſt. of the Five Nations. Introduction, p. 7, 8.

"always

" always peel a large piece of bark from " ſome great tree. They commonly chuſe " an oak as moſt laſting; upon the ſmooth " ſide of this, they with their red paint " draw the picture of one or more canoes, " as going from home with a number of " men in them paddling, according to the " number that go upon the expedition. " They then paint the image of ſome ani- " mal, as a deer, or fox, the emblem of " the nation againſt which the expedition " is deſigned, at the head of the canoe." I think Mr. Colden muſt have forgot to mention the painting alſo of an emblem, both of the nation and tribe of the Indians, who are engaged in the expedition, as well as the caſtle or *Home*, from whence they go forth; this they never omit. He goes on: " After the expedition is over, they " ſtop at the ſame place in their return, " and then continue the picture by a " deſcription of the event of the expe- " dition; in this part the canoes are " turned towards the *Caſtle*. The number " of the enemy killed is repreſented by " ſcalps painted black; and the number " of priſoners, by a number of ſtrokes re- " preſenting withies, theſe being the " bonds in which they bind them. Theſe " in their painting, he ſays, look like pot- " hooks. Theſe trees (or rather rolls of " of bark) are the *annals* or trophies of

" the Five Nations. I have ſeen, ſays he, " many of them ; and by them, and their " war ſongs, they preſerve the hiſtory of " their great atchievements." I remember to have heard the following ſtory of another ſort of picture-writing. One of our miſſionaries making a progreſs in eſtabliſhing the divine doctrines of the Goſpel amongſt ſome tribes of Indians, acquired thereby great influence amongſt them. The Sachem, who was at the head of thoſe tribes, found his power decline as that of the miſſionary aroſe. He grew jealous of, but was not able to oppoſe, the influence which theſe doctrines carried with them. He ſought therefore to create an influence of the ſame kind. He retired for ſome time into the woods, and thence brought forth amongſt the Indians a beggarly impoſture in picture-writing delineated on a deer's ſkin ; he pretended that this was dictated at leaſt, if not drawn, by the Great Spirit. Towards one edge of this picture-writing were deſcribed, by various groups of Europeans and Indians, all the evils and grievances which the Indians had incurred and ſuffered by their European connections. In one part there were Europeans with ſurveying inſtruments, meaſuring out all their lands ; in another they were cutting down the trees ; in another, breaking up the beaver-dams ; in

another, deſtroying and driving all their game; while the Indians, pent up in a corner, were ſtarving. In the middle of the ſkin was pictured a great lake; and divers groups of Europeans and Indians paddling acroſs it; the Europeans and thoſe Indians who were embarked in the ſame canoes with them were overſet and drowning; the Indians who kept to themſelves in their own canoes were repreſented as making a ſafe paſſage. On the further ſide of this lake was a fine wooded country, full of deer and beavers, which Indians were hunting; while their wives and children were planting maize, in peace. I have heard that he explained this lake as the paſſage to a future life on the other ſide. The Indians who adhered to their national principle, and who ſtood unaltered by converſion, and maintained the intereſt of their tribes, were repreſented as paſſing over this with ſafety and ſucceſs to the 'Scaniaderiada, a country, on the further ſide this lake, which contained every good thing that gave plenty and happineſs to the Indian Being. So far as this ſtory goes to an inſtance of picture-writing, I here quote it: but thinking it, at the time when I was firſt told of it, a piece of trumpery ſtuff, I took little notice of it, ſo as not to remember exactly amongſt what tribe of Indians this happened; yet, as well

as

as I can recollect, I think it was ſome of the tribes on the Delaware or Suſquehâna rivers.

Picture-writing of this ſame nature, and ſome ſeemingly to the very ſame purport, may be ſeen in ſeveral examples given by * Van Strahlenberg, as exiſting amongſt the Tartars.

Theſe Tartar inſcriptions are alſo ſo exactly ſimilar to ſome found in Arabia (as given by Nieuhburg), that one might almoſt ſay they were drawn by the ſame hand.

I do not recollect any mention of, or reference to, any letters or writing in Homer; but of hiſtories deſcribed by pictures there are numberleſs inſtances in tapeſtry, in inlaid work, in engraving and carving.

Whoever examines the ſpecimen of picture-writing, as practiſed amongſt the Ægyptians, and commonly called hieroglyphics; and comes fairly and ſoberly to the reading of them, without pre-conceived notions of their myſterious meaning, and takes them as he finds them, mere pictures of birds, beaſts, fiſh, reptiles, and inſects, Portraits of the limbs, members, and

* Deſcription of N. E. parts of Europe and Tartary.

various

various parts of the human body; alſo of the human body itſelf in various attitudes of reſt and action: draughts of various inſtruments, tools, weapons, enſigns; numerals and meaſures; alſo *characters of elementary writing mixed with them*; he, I ſay, that examines theſe pictures, will perceive at firſt view, that they relate merely to human affairs: that they are either * hiſtorical memorials; or regiſter tables of the ſtate of provinces, of their lands, people, forces, produce and revenues; or calendars of their ſeaſons, &c. expreſſed by ſymbolic characters, determined in their form by law, from the earlieſt uſe of them, as will be ſeen preſently †.

" They uſe typical figures in the likeneſs " of all ſorts of animals; the limbs and " members of the human body; weapons,

* What I here ſay from conjecture of the Ægyptian Picture-writing, I can aſſert literally as a fact of the Mexican Picture-writing, which is in three parts. I. Hiſtorical Records. II. Regiſter Tables. III. Oeconomical regulations. Religious and military Inſtitutions. Purchas, L. v. c. 7. § iij.

† Τὰς μὲν τύπας ὑπάρχει αὐτῶν ὁμοίας ζώοις παντοδαποῖς, καὶ ἀκρωτηρίοις ἀνθρώπων, ἔτι δὲ ὀργανικοῖς μάλιστα τεκτονικοῖς· ἡ γὰρ ἐκ τῆς τῶν συλλαβῶν συνθέσεως ἡ γραμματικὴ πως αὐτοῖς τὸν ὑποκείμενον λόγον ἀποδίδωσιν· ἀλλ' ἐκ ἐμφάσεως τῶν μεταγραφομένων καὶ METAΦΟΡΑΣ μνήμης συνηθείας, &c. Diodor. Sic. lib. iii. p. 145.

" inſtruments, and eſpecially mechanic " tools; their writing is not formed by " pictures of words, and combinations of " ſyllables; but by picture-tranſlations of " the metaphors in which their language " naturally flows." " They draw (ſays Diodorus, going on with the ſame account) " a hawk for inſtance, a crocodile, " or a ſerpent, parts and members of the " human body. The hawk, as ſuppoſed " to be the ſwifteſt of all birds, is made " the ſymbol of *Velocity*. The ſenſe then " is thus transferred by theſe *written me-* " *taphors*; to every thing which has any " reference to velocity, nearly as well as " if it was ſpoken in direct terms. The " crocodile is made the ſymbol of every " thing which is evil. The eye repre- " ſents watchful guard, and juſtice." [I might here add, and is therefore tranſferred by metaphor, ſome time with the addition of a ſcepter, to repreſent human government and Divine Providence.] " The drawing the right hand open, with " the fingers extended *, ſignifies the ſupply " of human life; the left hand cloſed ſig- " nifies care and cuſtody of the goods of " life. The like reaſoning does in like

* Shakeſpear uſes the ſame metaphor:
He had an eye for pity, and a *hand*
Open as day for melting charity.

" manner

" manner tranſlate from the portraits of " all other parts of the body, and from " all ſpecies of inſtruments, tools, and " weapons." To this account I may venture to add, that under the head of ὄργανα τεχνικὰ, &c. come the repreſentation, by theſe metaphors, of every ſpecies of office; diſtinction of civil claſſes; and of every occupation under theſe: likewiſe numeration and meaſure, as applied to length, ſpace, weight, and capacity, in every article to which numeration or meaſure is applicable. As the mouth is that part by which ſpeech is effected, lineal portraits of the mouth, in the various forms it takes in enunciation, are uſed (as to me appears) to mark the various elements of ſpeech, which character I call *oral* *. As the firſt mode of numeration with all people is by the fingers, ſo we find a ſyſtem of numeral characters expreſsly formed on this idea †. But they had other methods alſo of numeration, ſpecimens of which are found on every hieroglyphick inſcription. It is not only true, that the Ægyptians uſed elementary writing, but they had two ſorts of theſe elements. Thoſe which took their form and character from the mouth, I have, for diſtinction ſake, called *oral*. The other,

* Vide Plate D. † Vide Plate C. Part II.

which I conceive to be the ſecrete cypher, I have, for diſtinction ſake, determined to call the Ogmian (the ſecrete writing of the Druids was ſo called). See ſpecimens of this in the upper part of drawing C, as copied from hieroglyphiç inſcriptions.

God, the Supream Being, is pictured by the only two following ſymbols invariably the ſame; firſt, by a winged globe, or circle, *ſignifying infinity, unity, activity, and omnipreſence:* ſecondly, by a globe or circle, through which a ſerpent, the ſymbol of life, is paſſant, *ſignifying the creative, and plaſtick manifeſtation of the firſt cauſe, animating and governing the material world.*

The preciſe form of all theſe typical characters, however they may differ in ſome unavoidable deviations of execution, were originally (when firſt uſed in public inſcriptions) fixed and determined by univerſal concurrence. Since that, they are by the laws conſidered as thus fixt, and are required to be ſo portraied as they were drawn when firſt ſettled, neither better nor worſe. Hence that uniformity obſervable in all the multitude of exemplars which are found in various parts, and are ſuppoſed to have been written in very diſtant

diſtant periods. Plato, in his ſecond dialogue on laws, confirms and explains this point *. "Theſe types and figures, be they ſuch as they are, and whatever they are, they are formed on the baſis of an inſtitution of the government of Ægypt, which directs that no ſculptor, painter, or ſtatuary, ſhall, under any idea of improvement, or on any pretence whatever, preſume to innovate in theſe determined forms, or to introduce any other than the conſtitutional ones of his country. Hence it is, as you obſerve, that thoſe forms and figures, which were formed or painted hundreds of ages paſt, be they what they may, are exactly the forms and figures, neither better nor worſe, which are ſculptured and painted at this day."

Referring to this prefatory explanation, I will firſt lay before the ſociety a collection of theſe *defined* and *preſcribed characters*, which repeatedly occur without variation

* Ταξάμενοι δὲ ταῦτα ἄτλα ἐϛὶ, κ᾽ ὁπoῖ ἄτλα, ἀπέφηναν ἐν τοῖς ἱεροῖς· κ᾽ παρὰ ταῦτα ὐκ ἐξὴν ὅτε ζωγράφοις ὅτι ἄλλοις ὅσοι σχήμαλα κ᾽ ὁποι᾽ ἄτλα ἀπιεργάζονλαι καινοτεμεῖν, οὐδ᾽ ἐπινοεῖν ἀλλ᾽ ἄτλα ἦ τὰ παῖρία· ὐδὲ νῦν ἔξέϛιν, οὔτ᾽ ἐν τύτοις, οὔτ᾽ ἐν μυσικῇ συμπάσῃ. Σκοπῶν δ᾽ εὑρήσεις αὐτόθι τὰ μυριοςὸν ἔτος γεγραμμένα, ἢ τετυπωμένα (ὐκ ὠσ᾽ ἔπος εἰπεῖν μυριόςον, ἀλλ᾽ ὄντως) τῶν νῦν δεδημιεργημένων οὔτε τι καλλίονα, οὐτ᾽ αἰσχίω τὴν αὐτὴν δὲ τεχνὴν ἀπειργασμένα. Plato de Legibus, lib. ii. p. 789.

in moſt or all of the exemplars of Ægyptian picture-writing. See Plate A. In the Plate B, I have claſſed ſome of theſe under the ſeveral heads to which I ſuppoſe them reſpectively to belong, according to what I collect from Diodorus and Plato. In Plate C are given the numerals as formed from the fingers and hands, according to the opinion of Pierius.

If now common ſenſe, led by theſe examples, will examine any of the Ægyptian picture-written inſcriptions, conſidering them, as what they are, the moſt ancient exemplars; as the efforts of man in the earlieſt, if not the firſt, periods of his progreſſive civilization, to expreſs and communicate his ideas by viſible types; as *writing by pictures, the very picture-language which he ſpoke*; ſuch common-ſenſe will be more likely to develope the meaning of theſe things called hieroglyphics, than refined learning will be by following the myſtic *after-thoughts* of learned Myſtagogues, gleaned up from phyſiologick philoſophers.

The metaphoric ſymbols expreſſed in pictures, are the firſt efforts of a rude not the ſtudied devices of a learned people: they are drawn thus not to veil and to conceal,

conceal, but repreſent to the vulgar eye thoſe ideas which they wiſh publickly by a publick inſcription, to communicate and record.

This is the vulgate writing of all people in the firſt periods of their civilization. Such hath invariably been the firſt efforts to form memorials, records, and regiſters. This cannot be otherwiſe, for it is neither more nor leſs than the reflected image of the * metaphors and ſimilies by which they ſpoke. Language is local, and but of the moment; when it was meant to communicate to perſons diſtant in place, or to future periods diſtant in time; fixt permanent, palpable and portable, images of thoſe ideas became neceſſary. Such before the invention of elementary types were the Ægyptian picture-writing, commonly called Hieroglyphics.

I have therefore always thought, and am convinced, that we miſtake the Ægyptian accounts, when we call theſe picture-records, written on their obeliſks, and other public monuments, *Hieroglyphicks*. If we mean thereby that they contain the ſecret myſteries of their religion, and conceive them to be myſterious ſymbols of

* Diod. as above.

mythology and divinity. The real hieroglyphick, the ſacred and ſecrete writing, the ἱερος λογὸς, and ἱερα γράμματα, the ἀπόκρυφα γράμματα was *elementary*, or what we vulgarly call, Alphabetick. Whatever chance, or Interpoſition of wiſdom, or whatever analyſis by reaſoning, may have led to the uſe of letters, it is certain, that they have no apparent connection with the ideas which they are meant to expreſs; and until the *latent rationale* of theſe elements are taught, the writing muſt remain an impenetrable ſecret. This mode of writing by letters, invented by ſtudy, and applied to learning, and uſed by legiſlators, ſtateſmen, and prieſts, became, and was truly the ſecrete and ſacred writing, the ἀπόκρυφα ϗ ἱέρα γραμματα, and *Hieroglyphicks*, of thoſe abſtruſe and refined Truths, of which, while they meant to convey the knowledge to the learned, they thus kept it ſecreted from the people at large. The picture-writing, exhibiting κυριολογικὼς, the actual portraits or types of the ideas meant to be conveyed to the people, remained the *vulgate*. When firſt, and by what error, this vulgate picture-writing was ſuppoſed to be the *Hieroglyphicks*, in the ſenſe above deſcribed, I know not; one has but to read the explanations which the moſt ingenious and learned

learned are able to give of it under this idea, to be convinced of the abſurdity of the opinion. Horapollo, Pierius, and Kircher that learned myſtigogue, give ample proof, that it is ſo. The great learning of the one, and the ingenuity of the others, are merely exerted to befool one's underſtanding.

I read in direct terms in Herodotus, that theologick theorems, expreſſive of the abſtruſe nature of the inviſible ſpirit, and unity, were written in the ἱερα, the ἀπόκρυφα γράμματα in the ſacred and ſecrete letters. And I find further, that the Egyptians had two ſorts of the elementary writing, one of which they called the Sacred, the other the Demotick or Civil. At the ſame time I do find, in ſome expreſs and poſitive inſtances, that theſe ſacred writings were the elementary or alphabetic writing, being expreſsly ſaid to be written from the right hand to the left, a circumſtance not predicable of pictures. Herodotus, giving an account of one of the ſtatues of Seſoſtris, in Ionia, ſays, that on a line, drawn from one ſhoulder to the other, were written theſe words *(in the ſacred letters of Egypt)*, "I "obtained this region by the ſtrength of "theſe arms."

There

There is at this day, or at leaſt was when Van Strahlenberg was in Tartary, an Hermetick figure, or Terminus, on the back of which, like on that of Seſoſtris, there is an inſcription in three lines, written in elementary characters, of which he has given an engraving. It is to be obſerved, at the ſame time, that the general run of the Tartar inſcriptions is in the vulgate picture-writing. Herodotus alſo mentions an inſcription on the pyramid of Aſychin, and gives a tranſcript of it, ſaid expreſsly to be written in letters. And again, he mentions an emblematic ſtatue of Æphaiſtus, with a label, Λεγῶν διὰ γραμμάτων τάδε, expreſſing in letters theſe words, "*Whoever looks to me, let him be* "*a thorough Religioniſt.*" Diodorus Siculus alſo mentions an inſcription on a rock in the mountain Bagiſtan, inſcribed by Semiramis, Συρίοις γράμμασιν. But without going to books, recording inſtances of inſcriptions written διὰ ϛοιχείων, or in elementary letters, we need only refer to the obeliſks, and other monuments now exiſting, where theſe are actually extant. I have made a collection of ſome of theſe, both *oral* and *ogmian*, which you ſee in the annexed drawings, C. and D. What has led to the idea and opinion that this Picture-writing contained the myſtick and hidden

hidden ſcene of their religion, philoſophy, and politicks, has been the mythologick and allegorick explanation given to things, which the people, from repeated acts of veneration, had inſenſibly been led to make objects of adoration. The legiſlators, prieſts, and philoſophers, ſeeing that the unveiling of the ſubject, as mere matter of record and human hiſtory, after they had been made objects of myſtery and adoration, would deſtroy all myſtery, and all power, took up the people's adopted prejudices, and grafted thereon Fables of Gods and Heroes, and formed an eſtabliſhed *Syſtem of Mythology*. As the world, in its progreſs of civilization, grew more inquiſitive and wiſer, theſe Fables in their turn became too groſs to bear in their direct ſenſe, the light of common ſenſe. The legiſlators and prieſts began *then firſt* to reſolve all, by myſtical Enigmas, into a *Syſtem of Phyſiology*, expreſſive of the Being, Attributes, Manifeſtations, and Operations of the firſt active cauſe of all things, acting on inert and paſſive matter. The Platoniſts, and more eſpecially the Stoicks, were the firſt authors of *theſe divine Romances*. Chryſippùs *, in libro ſecundo, vult Orphei, Muſei, Heſiodi, Homeri, fabellas accommodare ad ea, quæ ipſe, in

* Cic. de Nat. Deor. lib. I. ſect. 15.

libro

libro primo de diis immortalibus, dixerat: Ut etiam veterrimi Poetæ, *qui hæc ne ſuſpicati quidam ſunt*, Stoici fuiſſe videantur. Quem Diogenes Babylonius conſequens, in eo libro, qui inſcribitur de Minerva, partum Jovis, originemque, virginis, *ad phyſiologiam traducens*, disjungit a fabula.

When theſe Picture-writings, at firſt mere human records of the affairs of man, expreſſed by ectypes, delineated from the metaphorick and allegorick phraſes of the very language which they ſpoke, were firſt wrought into *Fables of Mythology*, and by after refinements, into *divine romances of Phyſiology*, it was natural they ſhould, by thoſe who thus explained them, be called the Hieroglyphicks, or ſacred Writings. Whereas, in fact, they were originally only the vulgate; while the elementary and letter-writing were the ἱερὰ καὶ ἀποκρύφα γράμματα mentioned by Herodotus, and Diodorus Siculus.

That there were letters in uſe prior to the time generally aſſigned to them; and that they exiſted amongſt a people, from whom, thoſe who were called the inventors of them, learnt them; may be aſſumed as a clear and decided fact, on the teſtimony of Diodorus Siculus *. The

* Lib. V. fol. 340.

ele-

elementary writing by letters, he ſays, was known, as being amongſt the Syrians; that the *Muſes* however invented them. Now, it is very natural for a Greek writer, or a Grecian tranſcriber, if he had met with the word *Moſes* *, to convert it to *Muſis*. From *Moſes* it is moſt likely the Syrians received their knowledge of letters; be that as it may. Diodorus ſays, that from the *Syrians* the Phoenicians received this invention and practice; that the Phoenicians, *making ſome alterations* in the forms of the characters, when they communicated them to the Europeans, they were called Phoenician. He ſays, in † another place, that the letters were at firſt called in Greece Phœnician; but that being adopted by the Pelaſgi, they were after that called Pelaſgic; and that the Thracian Poets wrote in theſe letters.— That there were letters amongſt the Syrians, as here mentioned, in a period prior to what is heard of them amongſt the Phœnicians, appears from the ſtory of Semiramis, ordering an inſcription to be engraved on ſome rocks of the mountains Bagiſton. Συρίοις Γράμμασιν. The teſtimony of this ſtory to the early exiſtence

* So called from *Mos* water, referring to the circumſtance of his being found there.

† Lib. iii. fol. 201.

of

of Syriac letters, is equally of force, whether the ſtory of Semiramis be true or not. The reference to Syriac characters is rather a ſtronger proof of the actual exiſtence of ſuch letters then in uſe, if the ſtory of that particular uſe of them ſhould not be true; for then it appears, that the known and undoubted fact of the exiſtence of Syriac characters is referred to, in order to give ſupport to a fabulous tradition of Semiramis, and her inſcription.

The Egyptians had letters prior to the erection of the obeliſks, and of two if not three ſorts (beſides their picture-writing). They uſed, ſays Herodotus *, two ſorts of letters, the one they called the Hiera, or Sacred, the other Demotica, or Civil; which alſo he contraſts with the elementary writing of the Greeks, when he ſays, that the Egyptian letters were written from the right to the left; whereas the Greeks, on the contrary, wrote from the left to the right. The invention of this elementary writing is referred to the very earlieſt periods of their hiſtory, as it is aſcribed to Phiot, Thoth, or Taut, ὃς εὗρε τὴν τῶν ϛοιχείων γραφήν.

Clemens Alexandrinus, who muſt have underſtood this matter, living on the ſpot,

* Lib. ii. c. 36.

gives

gives an explicit account of it in the fifth book of his *Strômata* *, of which I venture to give the following tranſlation. " Thoſe " who receive their education amongſt " the Egyptians, learn in the firſt place " the method of the Egyptian elementary " writing, or letters, which is called the " *epiſtolary* writing: Secondly, the *ſacer-* " *dotal*, which the hierographiſts, the " prieſt-ſcribes uſe: Laſtly, as the per- " fecting of this part of education, the " *Hieroglyphics*. This conſiſts of two " methods; the one is written by ele- " ments in direct terms; the other is " ſymbolic: The ſymbolic may again be " divided into two kinds; the firſt is a " picture or direct portrait of the matter " or thing intended to be deſcribed; the " ſecond is written by metaphorical re- " preſentations. This is ſometimes alle- " gorized by Enigmas." If my tranſ- lation be juſt, it deſcribes the fact as it will be found to have exiſted. It deſcribes firſt the two generical diſtinctions; the writing by elements or letters, and the

* Αὐτίκ' οἱ παρὰ Αἰγυπτίοις παιδευόμενοι πρῶτον μὲν πάντων τῶν Αἰγυπτίων γραμμάτων μέθοδον ἐκμανθάνουσι τὴν ἐπιστολογραφικὴν καλουμένην· δεύτεραν δὲ τὴν ἱερατικὴν, ᾗ χρῶνται οἱ ἱερογραμματεῖς· ὕστατον δὲ κ τὴν τελευταίαν τὴν ἱεροφλυφικὴν, ἧς ἡ μὲν ἐστὶ διὰ τῶν πρώτων στοιχείων κυριολογική· ἡ δὲ συμβολική. Τῆς δὲ συμβολικῆς ἡ μὲν κυριολογεῖται καθ' μίμησιν· ἡ δὲ ὥσπερ τροπικῶς γράφεται· ἡ δὲ αἰνιγματικῆς ἀλληγορεῖται κατά τινας ἐνιγμούς. Clemens Alex. Lib. 5. Stromaton.

picture-writing; and next the three ſpecies of each genus. Firſt, the writing for commmon buſineſs (the demotic, as Herodotus calls it), next the court-hand, that which the ſacerdotal Scribes uſed; and laſtly, that which was uſed in the ſacred engraved inſcriptions, which is to be ſeen to this day on the obeliſques, and other public records. The firſt, the Symbolic, was applied in actual portraits of the thing to be deſcribed; the Second uſed, as Plato expreſſes it, metaphors for deſcriptions; the Third, which allegorized theſe pictures into ænigmas, which the original writers, *ne ſuſpicati quidem ſunt*, I have already explained, as the mere phyſiologic commentaries, the divine romances, of the learned prieſts: the picture-writing was but of two kinds, the Portrait and Symbolic.

The learned authors differ much about this paſſage. Dr. Warburton has written an ingenious (but not preciſe) commentary on it. Angelus Maria Bandinus * has quoted it, and given an explicative tranſlation; but to my apprehenſion (and therefore I give it) the above ſimple and literal

* De obeliſco divi Cæſaris Auguſti è campi Martii ruderibus nuper erato Commentarius, 1750. Cap. v. p. 16.

tranſlation preciſely gives the fact. Several of the letters of the firſt ſpecies of the elementary writing, may, I ſhould gueſs, be found mixed amongſt the Coptic vulgate. If there were any of theſe ſacerdotal books, regiſters, or records, which ſeveral authors mention as written on tablets of wood, ſtones, or tiles, or in volumes of papyrus; and as kept ſacred and ſecrete, in the adyta of their temples, there might be hopes of recovering ſome ſpecimens of theſe hierographick elements. The elements of the hieroglyphick writing ſtill remain in full perfection on the obeliſks, and every other Egyptian inſcription, to point out which fact is one of the principal purports of this paper. Both the ſpecies of the picture-writing may alſo be eaſily diſtinguiſhed, as ſeparately uſed, each to its own particular purpoſe, and in its own particular uſe. In plates B, C, and D, I have endeavoured to claſs the two ſpecies of the portrait and ſymbolick writing.

Dr. Warburton was the firſt writer who clearly and explicitly explained the nature of this picture-writing, as the natural firſt efforts of writing; *calculated to communicate, not to conceal.* He has by cloſe and clear reaſoning on the evidence, which his learning ſupplied, decidedly proved

this propoſition. As my ideas however, on this ſubject, although they ran nearly parallel to his, do not altogether coincide with them, and, from the opportunities which I have had of conſidering this practice in fact, go ſomewhat further in explanation of it, as alſo differ ſomewhat on the point of the coeval exiſtence and uſe of the elementary writing, together with the picture in the earlieſt times, which he has not touched upon; I ſhall here continue my own plan.

Herodotus * in Euterpe, chapter 125, mentions, that an account on record was written on one of the pyramids in the Ægyptian letters; of the amount of the expence in radices, onions and garlick, for the workmen employed in building it.

If the picture inſcriptions found on the obeliſks, and on the walls and gates of the oldeſt temples, and on the baſes of ſtatues, are ſuppoſed to be the oldeſt ſpecimens now remaining, as undoubtedly they are, of this method, the reader will find the elementary letters always mixed with it. I have endeavoured in plate D to claſs theſe elements, or στοιχεῖα, to their

* Σημᾶναι διὰ γραμμάτων Αἰγυπτίων ἐν τῇ Πυραμίδι ὅσα εἰς τὸ συμμαῖον κ) κρόμμυα κ) σκόρδα ἀναισιμώθη τοῖς ἐργαζομένοισι.

ſpeci-

ſpecifick enunciation. I have in the ſame alſo given ſome inſtances of theſe elements appearing plainly to be joined in words. In plate C, part III. fig. 3. I have given an exemplar from a very curious hieroglyphic inſcription taken from Norden, plate LVIII. wherein the courſe of the letters and reading is in the perpendicular line, and I think upwards as the tree grows. And in figures 1 and 2 of part III. in the ſame plate, I have gone further, and give two exemplars of actually legible words in *Etruſcan letters, exactly the ſame as the letters or elements found on the Ægyptian inſcriptions*. Montfaucon, book IV. c. 9. plate 28, Engliſh edit. exhibits a Roman aſſis with a Janus bifrons on one ſide, and a club on the reverſe, with an inſcription *, written in letters exactly the ſame as thoſe found on the obeliſks and other Ægyptian inſcriptions. Montfaucon thinks it not intelligible, but ſays at the ſame time, that P. de Molines reads it from the right to the left *Odicela*.

In the third volume of the Supplement, B. IV. c. 7. plate 69. Engliſh edit. he gives a † quincunx belonging to the king's cabinet, which he ſays, "*has an Etruſcan*

* Vide plate C. part III. fig. 2.

† Plate C. part III. fig. 1.

" *word round it, which I cannot read.*" This is plainly likewiſe read from right to left, *Odieia*; here again, I may aſſert that every letter in this inſcription may be found amongſt the hieroglyphicks.

It is certain, that in the books aſcribed to Moſes, reference is made to hiſtories prior to the writing of thoſe books. A learned and very ingenious writer, in a book * printed and publiſhed at Bruxels in 1753, *avec privilege, et approbation*, has diſcriminated, and arranged the ſeveral memoirs from which the book of Geneſis was, as he ſuppoſes, litterally tranſcribed. The arguments by which he ſupports this opinion are ſtriking, if not convincing, taken from the repetitions, and diſlocated anachroniſms; from the ſpecific uſe of the word *Elohim* in one of theſe, and the ſpecific uſe of the word *Jehovah* in another, as applied to expreſs the Supreme Being. Having diſcriminated theſe ſeveral Memoirs, he compoſes and arranges the whole of the book of Geneſis into four columns, in which each narrative is kept ſeparate, and yet ſo, as to ſtand ranged in the ſeries

* Such is the title page; but I have been informed, that this was ſo far from true, that, inſtead of being printed at Bruxelles, under the licence and approbation of the government of that country, it was actually ſecretly printed at Paris.

of

of order, and in the place where it was inſerted. By theſe means he accounts for all the repetitions, the derangements of the Narration, and the anachroniſms which have been made matters of objection againſt this book. By an attempt to prove, that the word *Elohim* was the only word uſed by the Patriarchs; and that the word *Jehovah* was never applied till uſed by Moſes; he ſhews, how all the difficulties, ariſing as objections from the reſpective uſe of theſe two words, are removed; by referring the firſt to the ancient Memoirs of the Patriarchs, and the latter to the compoſitions of Moſes; he adduces many learned proofs, that writing by letters was in uſe and practice before the time of Moſes. I could not avoid giving here this account of this very curious book; but the only uſe I make of it is in confirmation of what I think a fact, that writing by elementary characters or letters was a practice in Ægypt prior to the time of Moſes. At the ſame time, however, that I do not think that Moſes was the inventor of writing by letters; I think the ſtate of the fact is, that he, from the principles, and nature of his Divine Legiſlation, forbidding all picture-writing, firſt rendered *theſe, hitherto ſecrete* elements of writing, *the vulgate.*

Moſes, who was intimately inſtructed in the learning of the Egyptians, muſt perfectly have underſtood all theſe different methods of writing; and having ſeen how the picture-writing in proceſs of time led both to the groſs and the myſtick idolatry, expreſsly and abſolutely forbad the uſe of it, and was the FIRST MAN, OF THIS OUR WORLD, WHO USED THE ELEMENTARY OR ALPHABETICK WRITING AS THE VULGATE WRITING. From the Hebrews it ſoon ſpread amongſt the Syrian nations bordering on them; and from theſe the Phenicians ſoon after learnt it, and communicated it to the people of Europe and Africa, with whom they had commerce; and thus the uſe of the elementary characters ſpread over the whole civilized part of our hemiſphere. The progreſſive copying, by other nations, of the firſt elements uſed by the Hebrews, is very minutely and diſtinctly explained by Dr. Bernard, in his table of Alphabets, re-publiſhed by Dr. Morton.

As I have, in my account given above, explained, how firſt the picture-writing aroſe into uſe; and as I have here ſuggeſted how, from whence, and by whom, the elementary, or alphabetic writing (having been amongſt the Egyptians long the

ſecret

ſecret and ſacred writing) was brought forward into vulgate uſe; it may perhaps neither be diſagreeable, nor irrelevant to the purpoſe of this letter, to add an explanation, according to my ideas of the origin of letters, and to give the reaſons, as they appear to me, of the forms which were given to theſe letters.

When I firſt * diſcovered (I believe I was the firſt diſcoverer of it) the inſcription in the cæmetery of the great *Iriſh Pyramid* or barrow at New-Grange, I examined every alphabet and ſpecimen of elementary writing which I could meet with, under trial to find out ſomething explanatory of it. Thoſe which I did find ſimilar to it (allowing for imperfections of execution) did convince me that the characters were numerals in Phœnician or Æthiopian elements: and that the inſcription, now part of the materials only of which this barrow was formed, is a fragment belonging to ſomething much older than the barrow. In the courſe of this ſearch amongſt the Ægyptian hieroglyphics, as they are called, I ſaw, or thought I ſaw, lineal portraits of the

* Vide the Memoirs of the Society of Antiquaries at London, Vol. II. p. 258.

forms which I had obſerved (as may be read in N° 1.) the organs of ſpeech to take in the *enunciation* of the vowels, and in the combined act of *articulation*. I examined theſe by compariſon of the act of enunciation and articulation, in repeated experiments, copying *lineally*, and (if I may ſay ſo) *literally*, the forms which the organs of ſpeech take in theſe acts: then comparing theſe with the various elementary characters as I did and do ſtill conceive them to be, which are intermixed in all the ſpecimens of Ægyptian inſcriptions, I found in Kircher, Pocock, Norden, Mountfaucon (and I find ſince in Nieuburh) lineal * characters (intirely unnoticed by thoſe who pretend to explain the hieroglyphics) which correſponded exactly to the experiments which I had made. Compare therefore firſt the drawings in the plate (D) with the deſcription

* There is a very ſingular and curious ſpecimen of elementary writing in plate 28, No 61. of the Theſaurus Hieroglyphicorum a Muſéo Johannis Georgii Herewart, ab Hogenberg, 1607. I have not found this in any other collection of Hieroglyphics; and as the book is a very ſcarce one, I have given a copy of this in plate D. Several of the characters are exactly the ſame as thoſe repeatedly found on Ægyptian inſcriptions, except one, which I find in a Chineſe vocabulary, or word-book, and have therefore put in plate C. part III. Chineſe column.

of

of the forms of the mouth in pronouncing the vowels. A may be deſcribed as formed by an elevation of the upper part of the mouth, and upper lip ſomewhat angular, the point of the tongue appearing. V or U ſounded *ew* is expreſſed and may be deſcribed by a lowering the under part of the mouth, with a like angular form of the under lip ſomewhat projected. E or ε by a parallel opening of the mouth with a curvilinear contradiction of the under lip. O may be deſcribed by a circular or oval aperture of the mouth and lips. I, may be deſcribed by a right line deſcending perpendicular or at right angles with the mouth, as repreſenting the perpendicular ſtroke of the under jaw in enouncing that intonation or vowel. As to the variations ariſing from the different dwellings of the voice on the broad or minced *Au* and *aa*, on the long or ſhort E, I, O, or V. that does not enter into the analyſis of the firſt elements to which the indiviſible ſounds are reducible. Examine next the lineal or literal characters which I have collected together in plate D, and which characters I ſuppoſe to be στοιχεῖα, elementa or γράμματα, and which being ſuppoſed by me to be lineal repreſentations of the forms and actions of the organs of ſpeech, I call ORAL.

I have

I have further ventured to ſet ſome of theſe elementary characters arranged in a line with ſome of the known and decided letters of the ancient alphabets; not that I dare preſume to ſay that theſe ſo arranged are decidedly this or that letter; but merely to put them forward by ſuggeſtion to the more accurate examination of literate and learned ſcholars, who underſtand the ancient eaſtern languages: The reaſons for my thus arranging them to this or that letter derive ſimply and ſolely from my idea of their correſponding more or leſs to ſome lineal forms which I had in my experiments deſigned, and of their repreſenting the *contours* of the organs of ſpeech enouncing this or that element.

The characters which I ſuppoſe to be the cypher or Γράμματα ἀπόκρυφα, I have given in plate C, part I. I call theſe *Ogmian*, from their being preciſely the ſame as the ſecrete characters uſed by the ancient Iriſh, and called by them the *Ogham*, which colonel Vallency has, by a combination of erudition and knowledge peculiarly his own, ſo accurately explained.

Whatever was the real name in the Egyptian language of the author of the Art

of

of Writing, he is called differently by the people of nations foreign to Ægypt; the Greeks call him Thoth and Teute; the ancient northern people of Europe called him *Ogham* or *Och-am*, that is, *great Ham*, rendered by the Latins *Ogmius*. As I am rather diſpoſed to believe this to come neareſt to the real name of the perſon alluded to in this hiſtory, I have called the elementary characters of this ſecrete writing the Ogmian.

Colonel Vallency acquaints me, that he has found a deſcription of the *Ogham* given in Iriſh verſe in the antient bard's primiere; and that the courſe of the writing is in the perpendicular line; I have ſuggeſted to him an opinion, that if ſo, *it ſhould be read upwards*, as in addition we read the Arabic figures; which matter had before ſtruck me as appearing to be the caſe of the Egyptian-writing, in many inſtances; it is a certain fact that the Egyptians obſerved a different arrangement in writing the letters from that which the Grecians uſed. Herodotus ſays, that they wrote, as he conceived it, from the right to the left; while the Egyptians affirmed that, although it was the reverſe of the Grecian method, yet it was from the left to the right; I know no way of ſteering betwixt

betwixt theſe two contradictory opinions, but in the perpendicular line, which, as I ſay, ſeems to be the order of ranging the elementary characters, in ſeveral inſtances in the exemplars, given by Kircher, Pocock, Norden, Nieuburh, and Mountfaucon. I throw this out, however, merely for ſuggeſtion to examination.

This paper only means to adduce ſome probable account of that analyſis which gave to the firſt written elements that peculiar form which they ſeem to have originally taken. It means alſo to explain thoſe reaſons by reference to thoſe forms as mixt amongſt Egyptian hieroglyphic or picture inſcriptions now exiſting.

Not being myſelf of literature equal to the taſk, this little treatiſe wiſhes to excite and call forth the induſtry and ingenuity of thoſe learned men *who are* to make the experiment whether the orginal Ægyptian elementary writing may not be found out, and to ſtate the want of information in this point as a *deſideratum*.

As this art of writing by elements, almoſt as ſoon as it was known, and uſed as the vulgate writing of one nation, became the vulgate writing of the nations adjoining, and ſpread itſelf over the whole northern and weſtern civilized part of the

Ægean

Ægean hemiſphere, it ſeems ſtrange, and until explained, almoſt unaccountable, that it ſhould remain ſo long ſecrete in Ægypt, that people continuing, even after it was vulgate elſewhere, to uſe the picture-writing as their vulgate.

A very curious paſſage in Plato, written expreſſly in reſolution of this queſtion, not only fully explains the reaſon, but will ſuggeſt to the attentive and philoſophic antiquary many other ideas worthy his moſt diligent reſearch on this ſubject.

Thoth or Phioth, who is deſcribed as the author of many diſcoveries and inventions uſeful to mankind, never reſted or ſtopt until he had brought them to that perfection which rendered them *fit for practical application to uſe*; when he had carried any of his diſcoveries or inventions to that point, he laid them before Tham [Cham or Ham] who was at that time king of all Ægypt, and held his reſidence at Thebes. The ſole point of view in which this wiſe king conſidered them was their applicableneſs and *utility to the good of man.* Thoſe which upon mature deliberation and examination were proved capable of good uſe, he ordered to be communicated to his ſubjects, that they ſhould

ſhould be inſtructed in theſe arts: Thoſe, of whoſe beneficial uſe he did not receive uncontrovertible proof, he rejected, and prohibited from being communicated to vulgate uſe. "If I was (ſaith Socrates in "Plato) to diſcuſs all the arguments on "all the arts and inventions thus ex- "amined, I ſhould engage myſelf in a "long and tedious diſquiſition; but on "the ſubject of the invention of written "elements, the following is the ſubſtance "of what I heard in Ægypt. When Thoth "came to the explanation of the uſe of "this invention. This learning (τῦτο "τὸ μάθημα) ſays Thoth, O king, will "render your Ægyptians wiſer, and of "more retentive and deciſive memory. "The king examining this invention on "theſe two points, anſwered,—My moſt "ingenious and inventive Thoth, we are "ſo formed, that one man is more pecu- "liarly apt and active in the invention of "arts and works, while another is better "calculated to judge what benefit or "damage may derive from the application "of them to uſe. You the father of this "invention of letters, have been led by "your benevolence to conceive of their "uſe contrary to what would prove the

* In Phædro Platonis.

"fact

" fact in practice. This *written learning* " from an inacuracy and relaxneſs in the " application of memory *, which would " be a natural conſequence of it, would " be more likely to produce oblivion or a " ceſſation of the act of memory, than aid " and ſtrengthen it. For the mind truſting " to theſe alien types exiſting externally, " would be leſs careful to fix and re- " member the real ideas internally. You " may therefore be ſaid to have invented " a proper remedy for records, but no aid " or benefit to the application or exerciſe " of memory.

" Upon the other point of this inven- " tion being a vehicle of wiſdom or know- " ledge, I am afraid it would be more " likely to communicate and convey down " to your diſciples, *opinions in learning* " rather than *truth in knowledge*. For theſe " diſciples being by the means of this ve- " hicle, in a ſituation to receive communi- " cation of many matters without the ſu-

* Cæſar ſpeaking (Lib. vi. § 14. de Bello Gallico) of the Druids prohibiting their ſcholars from committing their learning and doctrines to writing, although in all other matters they applied writing in common uſe, gives the very ſame reaſon for it. Id mihi duabus de cauſis inſtituiſſe videntur; quod neque in vulgus diſciplinam efferri velint; neque eos qui diſcunt, literis confiſos minus memoriæ ſtudere, quod fere pleriſque accidit, ut præſidio literarum, diligentiam in perdiſcendo, ac memoriam remittant.

" perintending

" perintending and guiding hand of in-
" ſtruction; they, that is the bulk of them,
" would fancy themſelves to have acquired
" a juſt conception of many things, and
" to have knowledge, where they have
" wholly miſconceived and are intirely ig-
" norant; and will become the more obſti-
" nate and impractical as they will be mere
" opinioniſts inſtead of wiſe *." Thus far is Socrates in Plato ſuppoſed to give in this hiſtoric narrative the actual reaſons adduced by Tham or Ham; he may however, truly be ſuppoſed to give the general reaſons aſſigned by the politicians of Egypt for not ſuffering the elementary writing to be in uſe, and for continuing the picture writing ſo long after the elementary was become the vulgate in every other country. Theſe reaſons derive from deeper ſources

* Πολλὰ μὲν δὴ περὶ ἑκάστης τῆς τέχνης ἐπ' ἀμφότερα Θαμῦ τῷ Θεῦθ' λέγεσθαι ἀποφήνασθαι ἂ λόγος πολὺς ἂν εἴη διελθεῖν· Ἐπειδὰ δὲ ἐπὶ τοῖς γράμμασιν ἦν. Τοῦτο δὲ ἦ Βασιλεῦ το Μάθημα (ἔφη ὁ Θεῦθ') σοφωτέρες τὲς Αἰγυπτίες κὴ μνημονικωτέρες παρέξει· μνήμης τε γὰρ κὴ σοφίας φάρμακον εὑρέθη. Ὁ δ' εἶπεν, ὦ τεχνικώτατε Θεῦθ' Ἄλλος μὲν τοκεῖ δυνατὸς τὰ τῆς τέχνης, ἄλλος δὲ κρῖναι τίν' ἔχει μοῖραν βλάβης τε κὴ ὠφελείας τοῖς μέλλοσι χρῆσθαι, κὴ νῦν Σὺ, πατὴρ ὢν γραμμάτων, δι' εὐνοίαν τἐναντίον εἶπες, ἢ δυνατὸν. Τοῦτο γὰρ τῶν μαθόντων λήθην μὲν ἐν ψυχαῖς παρέξει, μνήμης ἀμελετησίαν τε διὰ πίστιν γραφῆς ἔξωθεν ὑπ' ἀλλοτρίων τύπων, ἐκ ἔνδοθεν αὐτὲς, ὑφ' αὐτῶν ἀναμιμνησκομένες, ὄκνον μνήμης ἀλλ' ὑπομνησίως φάρμακον εὕρες. Σοφίας δὲ τοῖς μαθηταῖς δόξαν ὠκ ἀληθειαν πορίζεις· πολυήκοσι καί σοι γενόμενοι ἄνευ διδαχῆς, πολυγνώμονες εἶναι δόξουσιν ἀγνώμονες, ὡς ἐπὶ τὸ πολῆθος, ὄντες, κὴ χαλεποὶ ξυνεῖναι· Δοκόσοφοι γεγονότες ἀντὶ σοφῶν. Platonis Phædrus.

of wiſe policy (taking in at the ſame time the foundation of their religious eſtabliſhment) than will perhaps ſtrike any of us moderns, whoſe prejudices run a contrary way to an extreme in communication of the art of reading and writing. After this, Socrates goes on to give his own reaſons, derived from the principle univerſally adopted by the ancient philoſophers and politicians, that the higher parts of knowledge, either in philoſophy or politics, when made vulgate, are moſt likely to be miſunderſtood, and to be perverted. When thoſe things which may be ſpoken openly, and thoſe which cannot with ſafety be vulgately ſpoken, are communicated in common to all indifferently, to thoſe who know, and to thoſe who are no proper judges; confuſion certainly, if not danger, muſt be the conſequence. Theſe ſentiments of Plato, if he may be ſuppoſed to underſtand the ſubject, do not only prove the fact, *that the picture-writing was the vulgate in Ægypt*; but alſo give the grounds on which the wiſdom of the Ægyptians always kept a *ſecrete elementary writing* for the communication of thoſe things which were fit only for the eſoterick knowledge of the few, while

for public communication they continued to uſe the picture-writing as the vulgate.

I have the honour to be,

SIR, &c.

P. S.

March 18, 1781.

Since this paper hath been read at the Society of Antiquaries, I heard of a book, laying it down as a poſition, that perſons born deaf might not only underſtand thoſe who ſpoke to them, but might in their turn acquire a certain uſe of ſpeech, from a decided knowledge of the forms of the mouth and actions of the tongue, which are to be diſcerned by the eye, and to be learnt without the uſe of the ear. This book is titled, Alphabeti verè naturalis Hebraici breviſſima Delineatio—quæ ſimul methodum ſuppeditat juxta quem, qui ſurdi nati ſunt ſic informari poſſint; ut non ſaltem alios loquentes intelligant, ſed et ipſi ad ſermonis uſum perveniant — in lucem edita.

Par F. M. B. ab Helmont.

Typis Abrahami Lichtenthaleri, A.D. 1667.

Being told that this book explained the formation of elementary characters of writing from the forms of the mouth, and the acts of the organs of ſpeech, much in the ſame way as I had done, I was very deſirous of ſeeing it: it was in the poſ ſeſſion of a friend, of whom I borrowed it; but found myſelf diſappointed *. The author ſuppoſes (as if the tongue was the only acting organ which articulated into nations) that the letters or elementary characters muſt originally have taken their form in the ſacred writing of the Hebrews, from the inflexions and contortions of the tongue, in reſpectively pronouncing each element. Theſe, ſays he, indeed, do no longer exiſt, and therefore he finds himſelf at full liberty to form, and does form, his viſual viſionary ſpeech, his *vox picta* from imaginary inflexions, and contortions of the tongue, which taken in profile, gives the forms of his alphabet. In

* Sacra ſcriptura Hæbræorum aliquam habuit cum *linguæ humanæ* motibus ſimilitudinem. . . . *Vox picta* ſic primitus inſtituta eſt, ut ſicut loquendi organa internum animi characterem auribus, ita illa eundem per loquendi organa expreſſum oculis ſubjiciat. Primarium autem loquendi organon lingua eſt, e cujus vario motu atque alliſu loquela oritur. Quid ergo, ſi loquela pingenda eſt, aliud pingi poterit quam varia ejuſdem motio et configuratio . . . . veræ earum literarum figuræ non amplius in uſu ſunt apud Judæos.

the firſt place, there are near two-thirds of the letters which are not articulated by the tongue. In the next place, as theſe forms of the tongue do only give the ſhapes of his ſuppoſed letters when it is ſeen in profile, I do not conceive how theſe forms are to be rendered viſible, unleſs the ſpeaker hath, not figuratively, but literally, a *lanthorn yaw*, or unleſs the cheek is cut away to lay it open by a ſection; and in fact, in the ſpecimens which he gives of theſe his letters, he gives the drawing of a man's head ſo diſſected. He gives, however, ſome drawings of the openings of the mouth in front, as in the act of pronunciation, which are nearly the ſame as I have given of the mouth enouncing the vowels; but he does not define theſe forms to thoſe ſpecifick acts. I could not but think right to take notice of this matter in this poſt-ſcript.

Feb. 2, 1782, having heard of the Rev. Mr. Woide, under whoſe care the Oxford edition of Labroze's Lexicon Ægyptiaco-Latinum ex veteris illius linguæ monumentis, &c. was publiſhed; who alſo publiſhed Scholtz's Grammatica Ægyptiaca; I had this day the pleaſure of ſeeing him. I experienced in him that openneſs and liberality

liberality of communication which characterizes all men of real learning; he explained to me the hiſtory and nature of theſe works, which are confined to the modern Ægyptian language, uſually called the *Koptic*, or Γυπτικ; he explained to me a matter very little known, but of which he is perfect maſter, the dialect of Upper Ægypt, called by Jablonſk, the *Sahidic*, but which he more properly calls the *Thebaic*: he is of opinion, and hopes to prove, that although the writing commonly called the *Coptic* is mixt, eſpecially ſince the time of the Ptolemies, with Greek letters; yet there are even in the moſt corrupt ſome, and in the higher manuſcripts many, letters which were originally uſed in the epiſtolographick writing of the ancient Ægyptians; that there are numbers of words, eſpecially in the Thebaic dialect, which are pure Ægyptian. Animated by a genuine ardor in the purſuit of knowledge derived from very uncommon learning in this branch of ſcience; conducted by particular information in the hiſtory of theſe reſearches and diſcoveries, and aſſiſted by very extenſive communications on the ſubject, he is in purſuit of the revival or reſtoration of the knowledge of the Ægyptian language; and if he is ſupported and aſſiſted as he ought to be,

it may not be deſpaired of: he alſo communicated to me a little diſſertation, which he is writing, on the Ægyptian language, the ſecond ſection of which, not yet finiſhed, goes to the ancient language and hieroglyphicks. I communicated to him the tables wherein I have delineated the *ſymbols* and *elements* found in the hieroglyphick inſciptions. He is clearly of opinion with this paper, that the elementary writing ſtands in the inſcriptions on the obeliſks and other remains of Ægyptian antiquity: he has not yet gone into the analyſis of that ſubject; whenever he does, that end, which I, through deficiency in a knowledge of the oriental languages, muſt have deſpaired of, his acquaintance with them, combined with his ſpecial knowledge of the Ægyptian manuſcripts, may hope to attain. If the few unconnected words and names ill ſpelt, and deformed with prefixed and terminating additions, ſhould luckily contain all or moſt of the elements, they may be picked out ſo as to become *a key* to decyphering the ancient inſcriptions. *What I have done in commencement of this diſcovery*, goes but to a few; and theſe are deſcribed by gueſs and conjecture on compariſon, rather than in any certain line of analyſis. *The want of information in*

the

the Ægyptian language and ſacred writing is ſo great a defect and DESIDERATUM in learning, that making, as I do in the treatiſe to which this paper is an appendix, a review of the ſtudy of antiquities, its deſiderata and diſcoveries, I could not avoid taking this notice of Mr. Woide's very learned and laborious reſearches, which promiſe ſo fair for diſcoveries in this point. Whenever he ſhall publiſh his learned Diſſertation on the Ægyptian Language, the world will ſee much leading matter; their curioſity muſt be raiſed in expectation of it, and I hope their induſtry and exertion will be excited in proportion, to aſſiſt in the purſuit.

Since the paper above was read at the Society of Antiquaries, I received a letter from Mr. Raſpe, expreſſing a deſire to communicate ſome ideas which he had conceived on this ſubject of the hieroglyphics, as alſo his views in a project he had formed, could he be enabled to effect it, of going to Ægypt to inveſtigate theſe matters on the ſpot. I have ſeen him on this ſubject, and, as far as I am a judge, his ideas have a much more conformable analogy to the nature of picture-writing, refined to a

ſymbolic tranſcript of mythological doctrines; and bids fairer, if this be the right idea of the right line, to give explication of this involved myſtical ſubject, than any thing which I have read or heard from others.

The hieroglyphick writing, according to his ſcheme of it, in the elements and compoſition of which he includes both the pictures and lineal diagrams unitedly, is like *Algebra*, a *ſymbolic written language*, containing, and expreſſive of the general terms of abſtract propoſitions, whoſe relations are marked by lineal ſigns.

To give ſome ſketch of what I mean, when I explain Mr. Raſpe's idea by comparing it to Algebraic writing, I will quote Mr. Profeſſor Saunderſon's Definition of Algebra, that it is "*The Art of computing "by Symbols*," alſo Sir Iſaac Newton's expreſſion, where he ſpeaks of the algebraic language; "è ſermone Latino vel "alio quovis, in quo problema proponitur, "tranſlatio fiat in ſermonem (ſi ità loquar) "algebraicum, hoc eſt, in characteres qui "apti ſunt ut noſtros *de quantitatum re-"lationibus* conceptus deſignent."

This

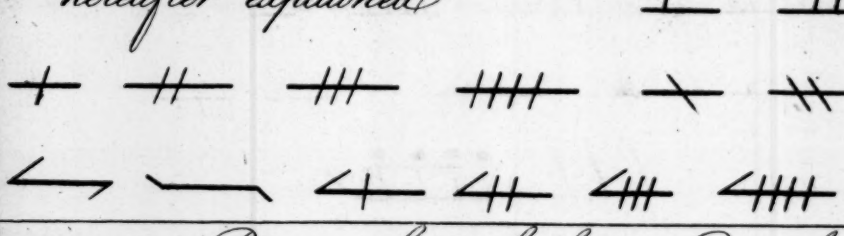
This idea differs from the ſimple notion which I have adopted of conſidering the Ægyptian inſcriptions, as being in part merely and diſtinctly the ordinary *vulgate* picture-writing as uſed by other nations; and in part, diſtinct alſo, the elementary writing, uſed as the ſecrete writing; in which I think I have ſhewn that ſome of the letters may be aſcertained by compariſon with the decided elements of writing, or letters of other languages. Mr. Raſpe's opinion, however, if purſued to its full extent of refinement, may, for aught I know, ſuit the abſtruſeneſs of this Ægyptian learning better than mine; and I wiſh that this learned and very ingenious, but very unfortunate and diſtreſſed man, was enabled by the aſſiſtance of the generous to purſue this reſearch; as alſo many others, in which he hath made great progreſs; particularly his analyſis and explication of our *Dóm's Day-book*. I wiſh that by ſome method of ſubſcription he could be engaged and ſupported in carrying into execution a work for which his practical knowledge in the Saxon, Deutſch, French, and Engliſh languages, as well as his general grammatical learning, peculiarly fits him; viz. an etymological Dictionary of our language, ſhowing its agnation

agnation with, and its derivation from, the original general language of northern Europe; as alſo its deviations and dialects as they ariſe in part from variations in pronunciations, and in part from the vague and indeciſive uſe of the elementary characters in writing.

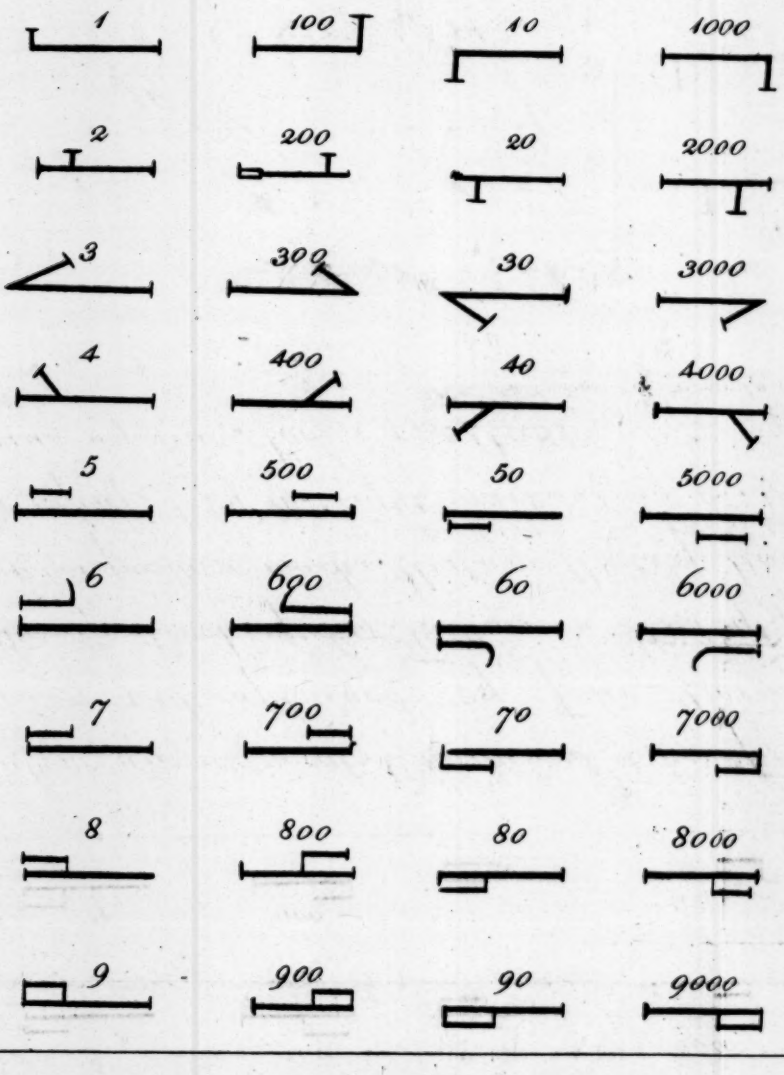
N° III.

Part I. **ELEMENTARY**

which I conceive to be the Secrete Apo
hereafter explained



Part II. *Pierius' hieroglyphic Numerals.*



The above are numeral Characters taken fro
as given and explained by John Pierius
of the 37 Book of his Treatise on Hieroglyp
Whatever position marks Units or Units of Hun
same expressed by the right marks Tens & Th
Pierius dyed at Padua 1558, Æt. 81.

J. Pownall delt.

Published as the Act directs. Nov. 1st 1784, by J. Dodsley

C

RY CHARACTERS

Apochruphic Sacred or Ogmian

nerals.	Part III. Etruscan Letters from M.r Swinton's Tables	compared with Egyptian & Chinese.	
1000	A.		
2000	E. ε. 3	3	
3000	F.		
4000	S. 2	2	
5000			
6000			
7000			
8000			
9000			

Fig 1

2

3

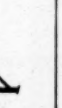
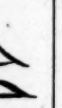
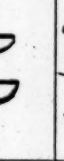
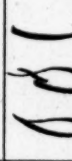
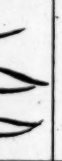
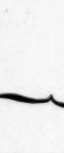
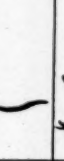
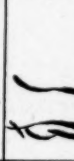
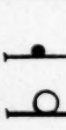
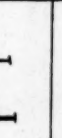
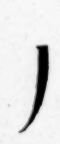
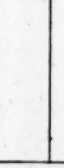
ken from reckoning by the fingers,
Pierius Valerianus in the first Chap.
ieroglyphics.
of Hundreds by the left Hand, the
& Thousands.

Pubd by J. Dodsley, in Pall-mall.

Plate D.

Characters found in Egyptian Inscriptions; miat with the Hieroglyphic Portraits, and which I call **Oral Elements**, *as appearing to me to be Portraits of the Mouth pronouncing the Vowels.*

Other Ch… with Hie… being of… Lineal e… of Speech… which I… respective…

	Portraits of the Mouth as pronouncing the Vowels.	Kircher Tabula Bembina	Kircher Tabula Barbarina	Montfaucon Tabula Isaica		*Kirch… N3 On th… to which …*
The mouth closed and at rest						G. K D
Pronounced by the Mouth A						B *Charact…*
U *pronounced* ew						
E *or* ε						*Ch…*
O					*from Nordon*	*From …* *Obelisq…*
I						*Ibid P…* 3Y

T. Pownall del.t

Published as the Act directs Nov.r 21. 1785 by J. Do…

This Inscription is taken from
The Thesaurus Hieroglyphicarum of Gio: Geo: Hervart
at Nuremberg 1696. It is not
but no Account of it given
& It is here inserted to incite
the Ingenuity of the Learned.

Other Characters found in like manner mixt with Hieroglyphics in Ægyptian Inscriptions, wch being of more complex form, I can suppose to be Lineal or Literal Portraits of the several Organs of Speech, in their Articulations of the Consonants. which I do not presume to ascertain & fix to their respective Powers, but leave to future Experiments to decide

Kircher, Pocock, Norden, Nieuhurch, Montfaucon.

NB On the Side of any of these Elementary Characters to which I have presumed to assign a Letter. I have put a q.

G. quare

K quare . L .R or S.

D .T quare . quare

B .P

Characters about the Powers of which I make no guess.

Characters which seem to be joind in Words

From Montfaucon Plate 107

Obelisque of Cleopatra Norden Plate 8.

repeatedly

Ibid Plate 123

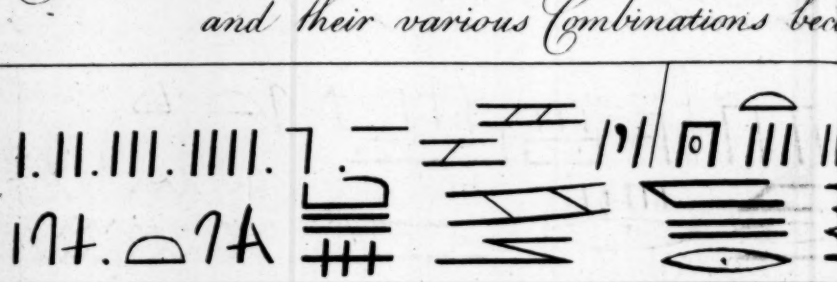
Ibid

Lond.ne 12th 1783 by J. Dodsley in Pall-mall.

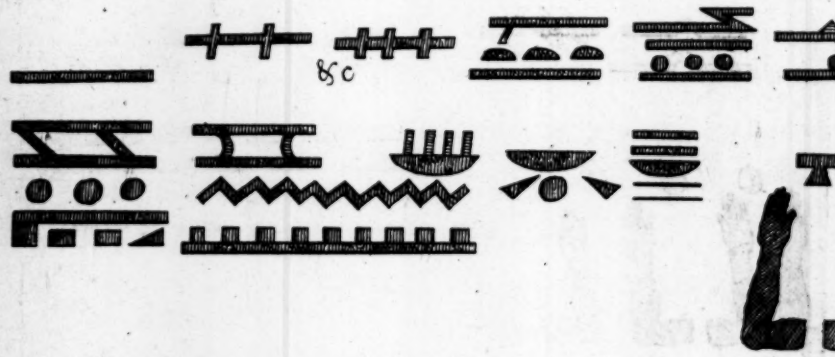
BSL

B

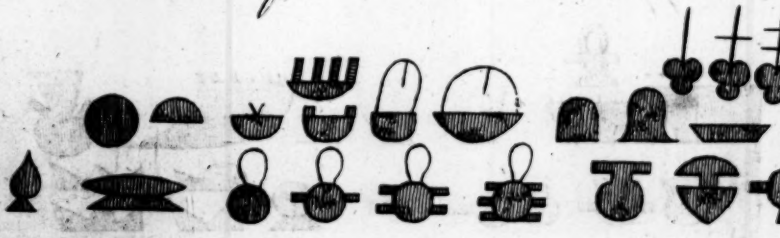
Characters which I conceive to be Numerals,
and their various Combinations bec



The following Characters I conceive to be Marks of



Characters of Numeration (as I cond

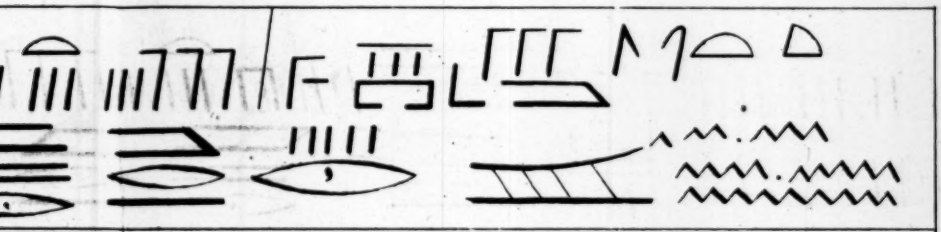


T. Brunall del.t

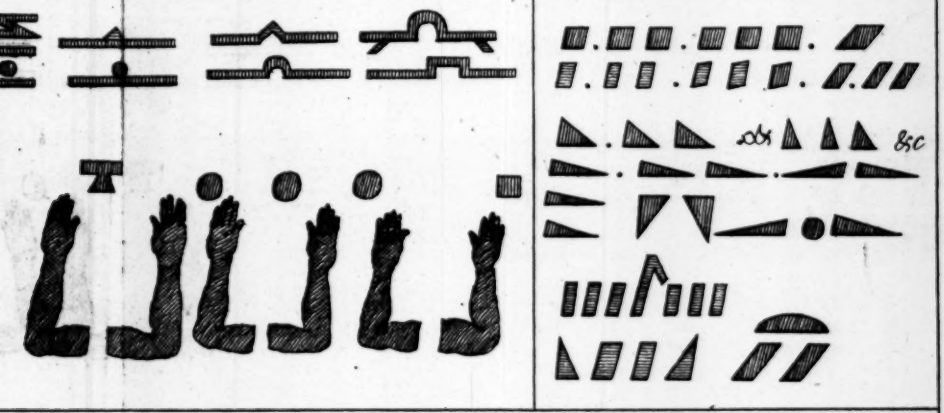
Published as the Act directs. Nov.r 1

B

merals, & which according to their relative Positions,
ons become arithmetic Numeration.



larks of Numeration applied to Length and Space.

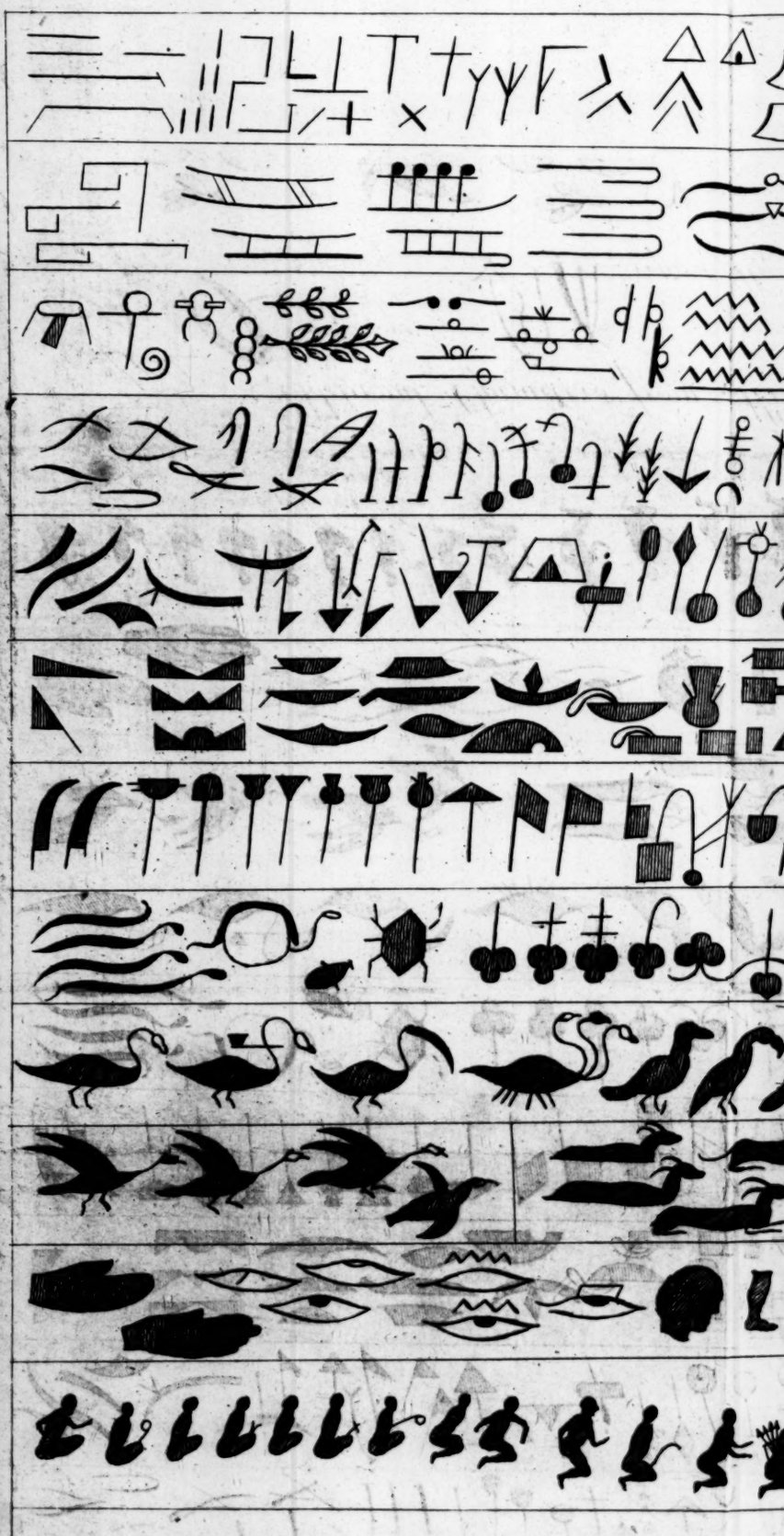


I conceive) applied to Capacity and Weight.

directs. Nov.r 22 1780. by J. Dodsley, in Pall-mall.

B L

The following Table is copied from Plate XLI *in*
Collection of general Characters & Figures, such as generally



Additional Characters from Ki

Ensigns *Compass or Divider repeatedly* *repeatedly*

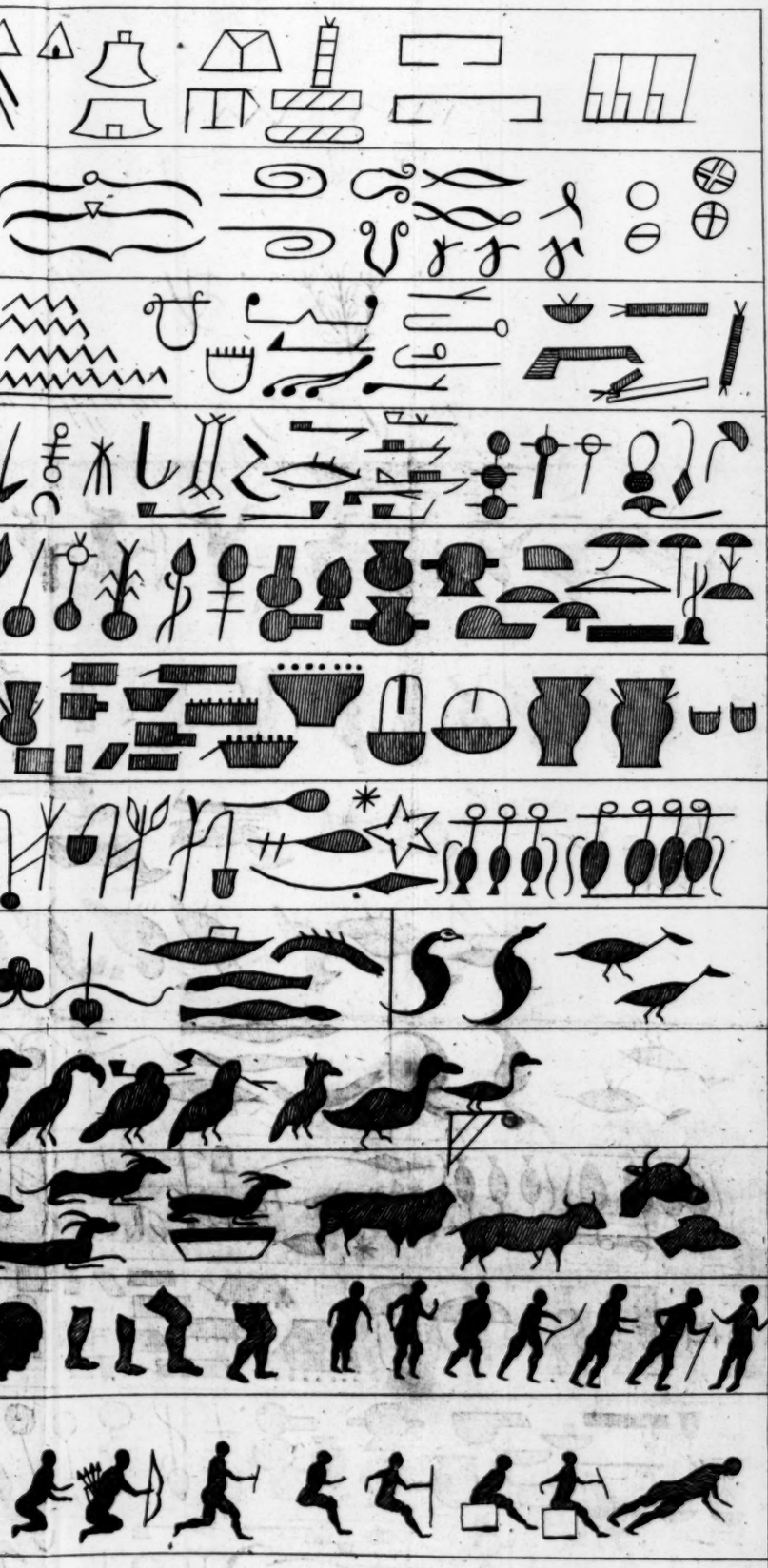
From Niebuhr — Plate. 45. —

A

e XLI in Niebuhr's Travels to Agypt & Arabia.

nerally & repeatedly occur in Agyptian Picture Writing.

Selected by M.r Niebuhr.



n Kircher & D.r Pocock.

atedly

45.

N° III.

Memoire. — *Being a Narrative of the Inveſtigations and Diſcoveries made on the Subject of the* Triremes, Quadriremes, *and* Quinqueremes, *of the Ancients, of the Nature of Row-Gallery, of the poſting the rowers, and of the mode by which theſe Veſſels were rowed, by* LIEUTENANT GENERAL MELVILL. *Communicated to* GOVERNOR POWNALL, May 15, 1781.

THIS narrative ſtates, that the General, while in the Weſt Indies, ſeveral years ago, had many repeated diſcuſſions with the officers of the navy on the ſubject of the ancient War-gallies, particularly reſpecting the manner of their being rowed, that he found the officers unanimouſly of opinion, that the *Triremes*, the *Quadriremes*, and the *Quinqueremes*, could never be ſo conſtructed as to admit of more than one row, bank, or tire, of oars on each ſide, as in the Mediterranean gallies now in uſe; and that if the conſtruction of the veſſel could be made to admit more, that it would be impracticable, nay

nay impoſſible, for more than one row to work at one time: That the difficulty, not to be overcome, aroſe from the impracticability of the angle of the poſition of the oar, and from the length ſuch oar muſt have in any row except that whoſe ports for the oars were at the firſt practical height from the water: That therefore theſe veſſels of war having, according to this notion, but one row of oars on each ſide, muſt have received their name from their having three, four, five, or more rowers poſted to each oar. The General, deferring to the practical knowledge of theſe profeſſional gentlemen, formed his opinion upon their authority, that this muſt have been the caſe. He ſet himſelf to inveſtigate the ſubject for confirmation of this opinion on fact, as he ſhould find that fact to turn out in the deſcriptions of ſea fights, and of other naval tranſactions, as given by the ancient authors, particularly Polybius, Cæſar, Livy, and Florus. The iſſue of this reſearch obliged him to relinquiſh his opinion, which he had taken up upon authority as above; the deſcriptions, accounts, and facts, in theſe authors, evinced moſt evidently that theſe *Triremes*, *Quadriremes*, *Quinqueremes*, &c. were reſpectively ſo denominated, from the number of rows, banks, or tire of

oars, which they had on each ſide, and not from the number of men poſted to each oar: on the contrary, it appeared that each oar was worked by one rower only. Although this point was clear and evident; yet he had not been able to determine, with any ſatisfactory conviction, what could be the poſt and poſition of the rowers, or what had been the manner of arranging the ſeveral banks or tire of oars and rowers within theſe veſſels. The placing them on the ſides above each other ſeemed to be ſubject, according to all the ſchemes of modern writers which he had peruſed, to inſuperable inconveniences. The unmanageable length and weight of the oars, that muſt have been required for the upper tires even of *Quadriremes* and *Quinqueremes* (not to ſpeak of loftier gallies of greater rates, which have been ſeveral times uſed) muſt have rendered the working of them impracticable; the placing of the different rowers ſo in ſeats on this plan as not to obſtruct each other, ſeems impoſſible: the great ſpace which they muſt have occupied ſeems incompatible with all ideas of naval architecture to avoid that difficulty; the unfavourable angle on the ſhip's ſide with which they muſt have rowed; and laſtly, the difficulty and danger with which the rowers muſt have aſcended

to,

to, or ſat upon the *ſedilia*, or ſeats, cloſe to the upright ſides, when the galley had a rowling motion, ſeems to be what neither the principles nor the practice of mechanics could admit. The objection of theſe difficulties had baffled all the endeavours at ſolution, which had been uſed by many very ingenious and learned writers, for ſome centuries paſt, in their experiments to determine *what was the true arrangement of rowers in the ancient gallies*. Mortified with theſe diſappointments in this line of his reſearches, and deſpairing of all hopes of obtaining an explanation from theſe authorities, he reſolved to try what he could do by the unprejudged uſe of his own reaſon, a reſource which he had availed himſelf of in his inveſtigation of *ſome other* DESIDERATA reſpecting the ancients. He therefore ſet himſelf to conſider what muſt have been the chief object of the Ancients in raiſing their war-galleys from one row of oars on each ſide, as they appear to have at firſt only had, up to 2, 3, 4, 5, and more rows. It occurred to him, that it muſt have been mainly for the ſake of *rapidity* in their movements; and that, to obtain this purpoſe, the indiſpenſable requiſites were, that the arrangement of the rowers within each ſide ought to have been ſuch,

as

as to admit of the greateſt number poſſible; that they ſhould have been ſo placed as not to impede each other; that they ſhould be enabled to row to the beſt advantage; and that their oars even for the higheſt tires both in reſpect to length and weight ſhould be ſufficiently manageable: from theſe grounds THE DISCOVERY immediately reſulted to him, which was, that by a combination of two obliquities between the galley, and a rowers-gallery running along its waiſt part, projecting outwards from a ſmall diſtance above the water's edge, with an angle of 45°, and rows of horizontal ſeats of about two feet in length, fixt obliquely upwards from the bottom of this gallery, againſt this obliquely projecting part of the ſide, with no more ſpace betwixt them in all directions, than ſhould be found neceſſary for the free movement of men when rowing together, a *Quincunx*, or *chequer-order* would be formed with all the above-mentioned requiſites, to the higheſt degree of advantage, which could co-exiſt conſiſtent with each other. This would alſo at the ſame time be free from all the oppoſite difficulties, inſuperable as was proved, until this conſtruction was imagined, which from a defect in the principle of inquiry, had not been ſucceſsfully combined by other

other inveſtigators, many of whom however he was fully convinced were of very ſuperior genius and learning to himſelf. That in 1773, being then in London, he cauſed a model of one fifth part of the waiſt of a *Quinquerimis* to be erected againſt a high wall at the bottom of a back yard, behind his houſe in Great Pultney-ſtreet. This was conſtructed with the ſame proportions as would have been required for a fifth part of a real galley, and held in a very ſmall ſpace, but with ſufficient eaſe, thirty rowers in five tires of ſix men in each lengthways, making one fifth part of the rowers on each ſide of a *Quinquerimis*, according to Polybius, who mentions three hundred as the whole number of rowers in it, beſides 120 fighting men. This model had been viewed by many perſons of diſtinction, as well as officers of both the ſea and land ſervices, with ſome of whom he had performed together the motions of rowing in it, and all agreed, as well as one of his majeſty's chief ſhip-builders, who had come to inſpect it, that *ſuch* and no *other* muſt have been the conſtruction of the ancient war gallies. General Melvill, after this diſcovery, had with great pleaſure found, that ſome of the obſcureſt paſſages on naval matters, which before had not a little puzzled him, were now become

become both intelligible and entertaining to him. That in Italy, where he travelled in 1775 and 1776, he found none of the *Literati* and Antiquaries (with whom he converſed) acquainted with this ſubject, nor indeed with any other naval or military points of antiquity, however learned and ingenious ſome of them ſhewed themſelves to be in other branches of ancient literature. He conceived, that their want of ſucceſs in diſcovering the true conſtruction of the ancient row gallies had not only been owing, in a great degree, to the want of uſing a proper principle of inveſtigation, together with their ignorance about ſhipping and ſea matters in general; but likewiſe to the form of their own gallies, ſo often before their eyes, and having only one row of oars on each ſide; and alſo to the imperfectneſs of many of the coarſe *Baſſi Relievi*, and ſmall coins, bearing images of ſmall row gallies, but without ſhewing clearly either the obliquity of the ſides, or the ſeparation of the oars from them; which would indeed have been an exceeding difficult work at firſt, and much too nice to have remained to this day. On ſeveral pieces of ſculpture however, particularly at Rome, he found the figures of row gallies, or parts of them, with the oars repreſented as coming down from

oar holes diſpoſed chequerwiſe. In the Capo di Monte Palace at Naples, he not only ſaw, on the reverſe of a large *Medaglione* of the emperor Gordianus, the figure of a *Triremis* with three rows each of 14 or 15 oars, very diſtinguiſhably, iſſuing chequerwiſe from an oblique ſide, according to the model he had before conſtructed; but he alſo obſerved, in the king's collection of ancient paintings on pieces of *Stucco* or plaiſter, at Portici (which had been brought from *Pompeii*) the figures of ſeveral row gallies, one or two of which, by preſenting the ſtern part, ſhewed both the obliquity of the ſides and the rows of oars reaching to the water, in the ſame manner as in the model above-mentioned.

N° IV.

N° IV.

Diſſertation on the ancient CHARIOT; *the Exerciſe of it in the* RACE; *and the Application of it to real Service in* WAR.

THOMAS POWNALL to RICHARD BERENGER.

THE deſcriptions of *the Military Chariot*, which one meets with in the ancient poets and hiſtorians, referring to a thing of common uſe and notoriety, might indeed become, to thoſe who were converſant with the thing itſelf, ſufficiently explanatory of the peculiar uſes, properties, and actions ſpecified; but, to a reader, in theſe diſtant days, when the thing no longer exiſts, they are too vague and obſcure, not to want a regular, full, and diſtinct explanation.

In ſearching through the ſcholiaſts and annotators, we find nothing preciſe and ſatisfactory; and the drawings from coins and marbles leave us equally uninformed as to particulars. Theſe ſeldom mark any particulars of the harneſs or carriage, or of the manner of joining the horſes to it.

It was not the intention of the artiſts, who wrought theſe deſigns, to mark the detail. It was ſufficient that they characteriſed the ſpecific action meant to be exhibited. Beſides this, their inattention in theſe general deſigns to the minute rules of perſpective added confuſion to indeciſion.

In conſequence of this ſtate of darkneſs and doubt, I put together, on a few ſheets of paper, all the paſſages which in the courſe of reading had occurred to me on this ſubject, with ſuch remarks as the preſent moment ſuggeſted: and I did it with a view of trying how they might elucidate each other; and as I ſoon found, as further opportunities occurred to me, that there were ſeveral marbles and coins which afforded ſpecimens of parts, ſome in one particular, ſome in another, of this ſubject, I formed the deſign of comparing the deſcriptions in theſe paſſages with ſuch repreſentations of this equipage as I might hereafter meet with in coins or marbles, or drawings made from them.

The reſult of this inveſtigation enabled me to draw up ſuch a particular detail of this military equipage, as left me in no difficulty of underſtanding any deſcription

or

or narrative which I met with of the uſe or application of the chariot, either in war, or in the race.

In treating the ſubject, I ſhall avoid that parade of literature, which crouds the margin with quotations, and ſhall confine myſelf ſolely to the reſult of my inquiries, referring, in my aſſertions, to ſuch authorities only, and in my deſcriptions to ſuch paſſages only, as are abſolutely neceſſary to the explanation.

The ancient military chariot had but two *Wheels*. The height or diameter of theſe, in no inſtance that I have met with, exceeded the height of a man's knee. There are ſome inſtances of theſe wheels being of one plain diſc, firmly compacted with iron; but the common form was ſuch as our wheels of the preſent day bear, having ſometimes four, ſometimes ſix, and ſeldom more than eight ſpokes or radii; the fellies being armed or ſhoed with braſs.

The uſual length of the *Axel-tree* was ſeven feet * in carriages of burden, as well as in thoſe of war, drawn by one

* Heſiod.

yoke or pair of horſes. When there were more horſes abreaſt, the axle extended to the extreme breadth of the whole rank, or at leaſt to the interval between the outſide horſe, and that next to him. There is a particular deſcription of this matter in the Military Chariot, deſcribed by Xenophon *: "They had ſtrong compact wheels that "could not eaſily be broken, and long "axle-trees which would not be liable to "an overturn." This dimenſion of the wheels, and this length of the axle-tree, accounts for every action of the chariot, which would be otherwiſe inexplicable; namely, the driving in full career upon all kinds of ground, over heaps of arms and ſlaughtered bodies, without being expoſed to (otherwiſe a common accident) an overturn. It is from this length that we meet with deſcriptions of the † axle groaning under the weight of two ſuperior heroes. It is this length of the axle which allows room for ſuch a breadth in the car, as gives ſpace for a warrior to ſtand and act on either ſide the driver. But this matter is put out of diſpute by the examples to be found in the ancient coins and marbles; you there ſee the wheel on the ſame perſpective baſe with the outſide horſe. The

* Xenophon Cyropæd. lib. vi. 17.

† Iliad, v. 838.

head

head of the axle was capped with a nut or box, to ſecure the wheel upon it, which nut was uſually in the form of a *Lion's* or *Leopard's* head.

The *Temo*, or pole, called by the Greeks Ῥύμος *, was fixed to the axle-tree, and tied to it by two ſtrengthening cheek-pieces, as at *c* in *fig.* B, which I have taken from profeſſor *Scheffer* de *Re Vehiculari*; this form is confirmed by ſeveral paſſages deſcribing it. The end next to the axle-tree is therefore called the *furca*, or, in Greek, Στηρὶνξ and δ.πλᾶν ξύλον. The other end, which lay upon the yoke, was called ἀκρὸς †, and by Curtius, *ſummus temo*; that the temo was inſerted into the axle-tree, is plain from Ovid ‡ deſcribing the wreck of Phaeton's chariot;

Illic fræna jacent, illic temone revulſus,
Axis——.

The body of the chariot was fixed upon this part where the axis and the temo united, and ſo ſtrongly were all compacted together, that while we frequently read of the yoke's being torn off from the temo by the violence of accidents, yet we never

* Iliad, v. 729. † Ibid.
‡ Metamorph. lib. iii.

meet with an account of the temo being wrenched off from the axis, except in the one inſtance of the chariot of the ſun driven by Phaëton.

At the other end, there was either a hole through the ſolid body of the pole (or a ring affixed to it) through which a pin (ſet erect in the middle of the yoke) paſſed in the harneſſing the horſes by this yoke to the chariot, as will be ſeen preſently. This hole or ring, (*b* in *fig.* B,) is called by Homer, Iliad xxiv. 272, κρικὼν. In the original uſe of theſe chariots, each pair or yoke of horſes were harneſſed to the chariot by a ſeparate temo or pole.—When there were one pair—there was only one temo.—When two or more yoke, two or more poles. In the firſt caſe, the temo was fixed in the middle of the axis as before-mentioned; in the ſecond caſe, the two temones were ſo fixed as to leave two fourths of the whole length between them, and one fourth towards each end of the axis. There is in one of Mr. Hamilton's drawings from the ancient Tuſcan urns and vaſes, Plate 130, vol. I. an example of this caſe, where each temo forms each ſide of the frame of the body of the chariot. When there were three pair or yoke of horſes abreaſt, of which alſo there

are

are inſtances in the antique marbles, &c. there is ſuppoſed to be three temones: you will in Xenophon read of τετράρυμος ἐκ ἵππων ὀκτώ, and ὀκτάρυμος. But you muſt not underſtand that in all theſe inſtances, and in all caſes, the ſeveral yokes, or pair, were abreaſt; in ſome inſtances, they were a-head of each other, with a *temone perpetuo*. The length of the temo was accommodated to the length of the horſes, leaving no more ſpace between the hind quarters of the horſe and chariot, than was ſufficient for the horſe to move his hind legs clear of the carriage.

The *Carriage* thus deſcribed, the *Body* of the chariot comes next under conſideration: in the firſt place, it is clear that in the military equipage the body was not a ſeparate diſtinct part moveable, but fixed, and actually a part of the whole compacted together inſeparably, as is above ſaid of the example in Mr. Hamilton's drawings. The body of the chariots of ſtate and parade were moveable, ſo as they were taken off from the carriage and ſet carefully by, when not in uſe, and only put on and hung by braces, when wanted for uſe, as we read of Priam's chariot in the 24th book of the Iliad. The carriage is there called ἅμαξα, and the body τεύχεα.

All

All thoſe chariots which we read of in Homer, as being ſo occaſionally hung on upon, or with braces, are of that ſort; but in the military chariot, the body and the carriage were but different parts of the ſame, one inſeparate compacted whole. We find that, when Pallas returned from the engagement, the body of her chariot is not taken off from the carriage, but the whole ἅρματα ſet up inclining againſt the wall *. When Jupiter returns from the battle to Olympus, the whole ἅρματα is ſet upon a baſe or altar. Whereas Priam's chariot is an example of the firſt ſort, as is that of Juno mentioned in the fifth book of the Iliad; where, being a ſtate or parade chariot, it is ſaid of the body, called δίφρος, that

Braces of gold ſuſpend the moving *Throne*.

The carriage is there called ὄχος. Although theſe parade chariots might be ſo hung upon braces, and fixed occaſionally on the carriage; yet thoſe uſed in war, and in the race, could not have ſtood the violent ſhocks to which they muſt have been liable, if they were not firmly compacted and fixed; and they appear ſo to be in all the examplars which I have ſeen.

* Iliad, lib. viii.

Mr.

Mr. Profeſſor *Scheffer* has deſcribed the parts of the body of the chariot with the exactneſs of a mechanic, yet he has not touched upon the article of the hanging or bracing it upon the carriage: nor has he taken any notice of the difference above deſcribed, between the *Parade* chariot thus *braced* on, and the *Military* chariot. The form of the body of the chariot is ſo well known, that it would be a mere waſte of words to deſcribe it, and a needleſs expence to give a drawing of it. I will only obſerve, that the front of the body was made breaſt high, and rounded like a ſhield, ſo as to anſwer to the driver the purpoſe of that defence, and was for that reaſon called ἀσπιδίσκη, or the ſhield part. The ſides of the chariot ſloped away backwards almoſt to the bottom, or floor of the body, but differently, and by various lines in different bodies. The hinder part was open, and although not higher from the ground than the height of a man's leg, yet there was ſomething of a ſtep to it called πτέρνα. Whether the body of the chariot was extended in breadth to the full extent of the axle-tree, is no where ſpecified; I think that in no caſe it extended further than to the interval between the two outermoſt horſes. However, from the uſe made of it in actual ſervice, it muſt

muſt have been of a breadth ſufficient to allow the officer to ſtand either on the right or left of the driver, as the nature of the ſervice ſhould require: on the coins and marbles we find the officer ſometimes on the right, ſometimes on the left: in the impreſſion of a coin given by *Scheffer*, the officer is on the left hand; in a baſſo releivo in the church of St. Felix at Spalatro, as publiſhed by Mr. Adams, the officer is on the right.

The bodies *Hyperteria* or *Capſas*, uſed in the race, were merely adapted to the carrying one perſon; the difference of theſe are plainly diſcernable in the various deſcriptions of them. There is in ſome of the exemplars of the chariots in the race, an appearance of the charioteer's being bound or braced in by a belt, or ſomething like it, which may perhaps have been of uſe in that caſe; and indeed ſome of the accidents which we read of in the race, ſeem to confirm this ſuppoſition. But this could not be the caſe in military ſervice, for neither the actions nor the accidents in battle, ſo frequently deſcribed, could have been ſo performed, or have ſo happened, if the charioteer, or officer ſerving in the chariot, were ſo tied in. I refer to ſuch actions and accidents,

as the officers diſmounting and remounting, and tumbling headlong to the ground out of the chariot when ſlain.

The next conſideration will be to examine the harneſs of the horſes, and the manner of tackling them to the yoke, and of fixing the *Yoke* to the *Temo* of the carriage. The only parts of harneſs which I have met with in reading, or ſeen in drawings, are the collar and body-girth: the one called λέπαδνα *; the other Μασχαλιςῆρις. The *Lepadna*, or *Collar*, was a thick broad leathern belt, conſiſting to all appearance of ſeveral folds ſtuck together, and bound at the edges; ſo cut and ſhaped as to fit the neck and breaſt, without preſſing or pinching in one part more than in another, when buttoned on. This collar, and the manner of buttoning it, may be ſeen in the drawing, (*Fig. C a*,) taken partly from the horſes over the great gate of St. Mark's church at Venice, and partly from a baſſo relievo in the temple of Jupiter at Spalatro. The ſame collar, with ſcarce the leaſt change of form, may be ſeen in numberleſs examples, although not perhaps with the ſame diſtinctneſs.

* Iliad, v. 729.

The

The body-girth, or *Maſkaliſtêris*, (*Fig. C b,*) was alſo a broad leathern belt; this alſo may be ſeen in almoſt every exemplar of the chariot and horſes.

Both theſe were fixed to the yoke which lay upon the withers (*F. C: c.*), bound to it by the *ſubjugia* or *jugalia lora*. The collar was more particularly applied in drawing, the latter in keeping ſteady, and ſtopping the carriage. From the manner in which the horſes were harneſſed to the yoke, no other tackling was neceſſary, or ever uſed, unleſs ſome trappings or ornamental additions: but, ſtrictly ſpeaking, the collar, girth, *lora jugalia*, and yoke, were all the harneſs properly ſo called.

The yoke or *jugum* was of wood, of a length ſufficient to reach from the withers of one horſe to thoſe of the other, leaving a proper diſtance between them for the temo. It was of ſuch a breadth, and ſo curved and hollowed in its form, *fig. A, e, e*, that the reſpective ends which reſted on the Λοφος, or withers of each horſe, might * lie there with eaſe to the horſe, and with ſecurity to the carriage. Each end

* See fig. E.

of

of the yoke was variouſly carved and ornamented. The middle part of this yoke was ſo curved, *fig.* A *d*, and hollowed, as to receive (the ἄκρος) the end of the temo, which was laid upon it. In the middle of which concavity a pin or peg called by Homer * ἔϛωρ, *fig.* A *a*, was fixed erect, ſo as to paſs through either the ſolid body of the head of the temo, or through a ring called by Homer κρίκος, affixed to the end of it. I have taken notice of this hole or ring in ſpeaking of the temo. When the temo was affixed as above to the yoke, it was faſtened and bound to it by the long leather thong called Ζευγόδεσμος, or *meſſabos*. The length being generally betwixt fifteen and eighteen feet; that mentioned by Homer is nine cubits, or thirteen feet and a half. This thong was of crude or white leather, in order that it might be more pliant in its ligatures. That theſe ligatures might be ſecured againſt ſlipping or giving way, the yoke had three or more grooves, *fig.* A *c c*, or niches cut in it, called ὄμφαλοι, in which this thong is ſunk in the tying †. There were alſo affixed upon the yoke, hooks or rings, (*Fig. A b b b b*) called οὔϖκες, through

* Iliad, xxiv.

† Ibid. v. 269. Εὖ οἰήκεσσιν ἀρηρός.

which, ſays Euſtathius, the * reins which guided the horſes were paſſed. The drawing in the plate will beſt deſcribe this jugum, for every part of which there is ſufficient authority even in this paſſage alone of Homer. The method of harneſſing the jugal horſes was as follows: The charioteer firſt put on upon the horſes the lepadna or collar, and the maſkaliſtêris, or body-girth. They then laid the yoke acroſs their necks upon the lophos or withers, where it was tyed to the lepadna and maſkaliſtêris by the jugalia lora †. He then brought them thus yoked to the chariot, and laid the pole of the chariot upon the yoke, paſſing the eſtôr through the krikos, the hole or ring at the end of it, after which he bound *(Fig. D,)* both firmly together, tying them trebly or threefold ‡ on each ſide, *(Fig. C d)*. After

* Amongſt the Florentine gems, Vol. II. Claſs 2d. Table 26. No I. is the Achilles in prælium revertens; in this repreſentation are ſeen the ὄμφακες, or rings, through which the reins ran, exactly as I have drawn them.

† It appears from Homer, in the paſſage above cited, that this was done in the ſtable before the jugum was fixed to the temo; but the uſual way was, after having harneſſed the horſes, to tye the jugum to the temo, and then bring the horſes to the jugum thus fixed, and tackle them to the jugum.

‡ Homer.

which

which the reins, coming from the horſes' head, were paſſed through the rings fixed upon the yoke *. In a baſſo relievo on a ſepulchral urn, exhibited in Piraneſi, there is an exemplar of the act of harneſſing the horſes to the jugum. If the reader is curious enough to turn to the paſſage above cited from Homer, of which I have made ſo much uſe in this deſcription, as alſo to that in the fifth book of the Iliad, v. 719,—and to refer his eyes to the † many examples which he may ſee in drawings from antiquities (many very fine examples of which he may ſee in Mr. Adam's drawings from the remains at Spalatro; two in the compartments of the frize of the temple of Jupiter, and one in a baſſo relievo in the church of St. Felix), he will find every thing moſt minutely confirmed, which I have above deſcribed: he will ſee from this deſcription of the harneſſing the horſes to the chariot, the reaſon why no traces or harneſs, according to our idea of ſuch, are ever ſeen, and why even the pole or temo is ſcarce, if ever, ſeen ‡.—This deſcription of the manner

* Ἡνία λίαν' ἐλίφαντι. Homer, Book V. v. 583.

† Vide plate 43 and 117, of ancient monuments, publiſhed by Abbé Winkelman; theſe I have ſeen ſince the firſt publication of the above.

‡ See fig. E.

of affixing the yoke to the temo or pole, and of harneſſing the horſes to the yoke, will explain every paſſage that occurs in common reading, ſo far as relates to the bijugæ, or chariots drawn by a pair, or one yoke of horſes.

Before I proceed to the more mixed kind of equipage, I will juſt mark, as I paſs, that the ancients ſometime uſed carriages drawn by one horſe, which had ſhafts as our preſent common carts have; which ſhafts were tackled to the collar or *Lepadna*, in the ſame manner as at this day; how the weight of the ſhafts and carriage were ſupported, I have no where ſeen or read. The only inſtance which I remember, at preſent, to have ſeen of this ſort of carriage, does not particularize the manner in which this weight was born. The reader will find the inſtance which I refer to in one of the paintings found at *Herculaneum*; it repreſents a groteſque, or emblematic carriage, being one of thoſe ſingle cars drawn by a hawk or parrot, and driven by a graſshopper. Here, as in the drawing from the Tuſcan vaſes, the ſide pieces of the floor or Τόνος of the body of the chariot continued make the ſhafts.

It has been remarked above, that the ancients, in the moſt early uſe of the chariots, uſed as many poles as they had yokes, or pairs of horſes in the carriage abreaſt; but this was not always ſo, for we read in Homer, in the caſe of Achilles's chariot, of an additional extrajugal horſe; as alſo in that of Priam's chariot, of two extrajugal horſes. I ſhall therefore proceed to deſcribe the manner in which they harneſſed thoſe extrajugal horſes, when they uſed one or two additional harneſſed in this manner. It was very ſimple, and will therefore be the more eaſily explained and underſtood: It appears that the ancients wiſely ſtudied, in theſe armaments, to avoid every unneceſſary matter that might become the occaſion of embarraſſment or entanglement in the execution.

As to the harneſs of this extrajugal horſe, it does not appear that any other was uſed (as indeed not neceſſary) than the lepadna or collar. For this horſe bore no part of the weight of the chariot, nor was he in any way concerned in ſtopping it, but ſimply for drawing; and he drew by a trace called ἄμπρον, inſtead of a pole. This ἄμπρον is ſeen, beſides the temo, in plate 130, of vol. I. of the drawings of Mr. Hamilton's Tuſcan vaſes. This trace

was extended, between the jugal horſe and extrajugal horſe, from the Παρῃορία to the axis. It will appear that this parëoria was not attached to the yoke, but was ſimply a trace by which the collar of the extrajugal horſe (called therefore Παρήορος) was joined to that of the next jugal horſe.

In the inſtance of three horſes harneſſed to the chariot of *Achilles*, lent to *Patroclus*, we read that after *Automedon* had harneſſed the two immortal ſteeds, Zanthos and Balios, under the yoke, he harneſſed Pêdaſos by the Παρῃορία, or extrajugal traces. This extrajugal horſe was called, from this particular harneſs, Παρήορος, or, from the long trace by which he drew, called Σειρὰ, Σειροῦος, or Σειραφόρος, which the Latins tranſlated *funalis*.

The effect of the accidents which befell this horſe, as deſcribed by Homer, proves that this horſe was not harneſſed to the yoke. He ſays, that upon this horſe's being wounded and falling down dead, the jugal horſes were diſtracted, or drawn aſunder as far as the yoke would permit without breaking, for although the yoke creeked with this ſtreſs upon it, it was not broken, nor were either of the horſes ſeparated from it. The coupling reins,

reins, called by Virgil, *concordia frena*, were confounded and entangled. But the moment that this extrajugal horſe was ſeparated by cutting the trace, the jugal pair ſtood again in their due order, and the reins were righted. If the traces by which this extrajugal horſe was faſtened had been any way tackled to the yoke, he muſt, by his falling, have pulled both the horſes the ſame way, and not aſunder; but by his pulling them aſunder, it is clear that he was joined by the harneſs to the horſe, and not to the yoke, as I have above deſcribed, drawing by a trace which paſſed between this outſide horſe and the jugal horſe to which he was tied *. This again accounts for our not ſeeing in the drawings even the body-girth, or any drawing trace on the outſide horſe of the *quadrigæ*, in thoſe caſes where extrajugal horſes were uſed.

Neſtor alſo had an extrajugal horſe in his chariot, which Paris killed; and being ſlain, the old man, in like manner, diſencumbered his equipage of him, by cutting the *Pareoria*.

* See fig. F.

The deſcription of this one extrajugal horſe ſerves likewiſe for the other on the other hand, as that was intirely ſimilar.

This deſcription of theſe extrajugal horſes will anſwer to the explaining every action or evolution of the chariot, both in battle and in the race.

With reſpect to the harneſſing four horſes abreaſt, the two on the outſide might be extrajugal; but I am convinced (eſpecially as I read it in Xenophon) that when more pairs were put abreaſt, each pair had a *temo* or *pole*; and a peculiar ſort of carriage for carrying great burthens is actually ſo deſcribed; but the quadrigæ, which were moſt in uſe, were certainly moſt commonly drawn with a pair of jugal horſes, and a pair of extrajugal horſes coupled on each ſide. The buſineſs of guiding, keeping ſteady, and ſtopping the carriage, depended chiefly on the jugal pair; that of wheeling up each extreme axle depended on the ſtrength and activity of the reſpective outſide extrajugal horſe, as will be ſeen preſently.

The conſtruction and the compoſition of this equipage of the *Bijugæ*, the *Trigæ*, and *Quadrigæ*, being thus deſcribed, the exerciſe

exerciſe of theſe in the games, and the application of them to ſervice in war, is the next point to be inquired into. This inquiry will ſtill more illuſtrate the matter.

The whole of this is contained in one line in Homer:

Κραιπνὰ μαλ' ἔνθα καὶ ἔνθα διώκεμεν ἦδε φεβέσθαι *.

which Mr. Pope tranſlates thus:

Practis'd alike to turn, to ſtop, to chace,
To dare the ſhock, or urge the rapid race.

If we view this line in the light of ſcience, we ſhall find that it does very minutely deſcribe every manœuvre uſed in the evolutions of the chariot, the advancing and retreating, and thoſe ſudden rapid wheelings to the right or left, by which they make their almoſt irreſiſtible attacks; which motion, as I ſhall afterwards explain it, is appropriated, of very ancient time, to the movements of the knights in the game of cheſs.

† *In gyrum greſſus magno impete lunat*
Curvatos.

* Iliad viii. 107.
† Vidæ Sacchia Ludus.

The great excellence and perfection of this manege was firſt * ſo to bit the horſes, that their necks might be pliable and obedient to the reins: the next conſiſted in teaching the horſes to move by ſuch † meaſured ſteps, that the whole equipage, when two, four, or ſix, were joined together, might move as one body without confuſion: Thirdly, to train them to run with velocity, and to inure them to courage and hardineſs, in either attacking by an impetuous ſhock, or in receiving firmly the attack. The laſt was in dreſſing them to execute the various evolutions of wheeling with docility, activity, and velocity: in ſhort, ſays Xenophon, to do all other things which they would have occaſion to perform in actual ſervice, to run over all kind of ground, to ſtretch up the ſteepeſt aſcents, and to ruſh down the ſharpeſt declivities.

The chief excellence in driving was *ſteadineſs*, ſo as to proceed whether moving in the right or curve line, in one uniform direction, and not to and fro by a vacillating and ſinuous motion. But the

* Xenophon.

† Which you ſee deſcribed in all the ancient coins and baſſo relievos.

great

great excellence of the horſes, as well as the higheſt ſkill of the driver, was called forth, in performing the wheelings to an exact given curve, under full ſpeed.

The chariot race was inſtituted for the exerciſe of this military skill, to encourage and afford opportunities of diſplaying it; and was ſo regulated as to require the beſt horſes, the higheſt finiſhed manege, and the moſt perfect skill in driving. To complete the noble competitors in this moſt difficult manœuvre of the *wheeling*, the courſe was always ſo laid out, that the race depended chiefly on the performing this difficult evolution. He that will read with the eye of ſcience old Neſtor's advice to his ſon in the Iliad, Book XXIII. v. 306, will need no other explication of this matter.

The courſe was generally of that length that the race was finiſhed by going once round; although ſometimes, in the more confined circus, the chariot went four times round, making ſeven wheelings, reckoning thoſe round both termini taken together. The route of the race was from the right wheeling to the left, round the extreme meta or terminus, and then returning back to the ſame ground, ſo as that

that the meta or terminus from which they ſet out ſhould be upon their right; and, if the courſe conſiſted of more rounds than one, then wheeling to the right round this meta, and ſo alternately in a line, making the Arabic figure of 8. Now four rounds thus performed will make juſt ſeven wheelings. I am conſcious that this opinion is new; but being perſuaded that I am grounded both in the nature of the thing, and by ſufficient authority, as will be ſeen preſently, I venture to give it out.

According to the opinion commonly received of the chariot race, that the competitors ſtarted from the right of the barrier, and wheeling to the left round the meta, always went the ſame way, always wheeling to the left in every circuit, whatever the number of rounds were, there ariſes a moſt inexplicable *injuſtice*, as to any chance that the merit of ſwiftneſs in the horſes, or of ſkill in the driver could have, except what they derived from their place upon the right or left, which mere lot gave them. For when there were from ten chariots to forty at ſometimes, all arranged abreaſt at the barrier; that upon the left, and that upon the right, would run courſes of very different lengths, in

the

the proportion of the leſſer or larger circle that their lot deſtined them to.

The explication of this difficulty given by Mr. Weſt, in his diſcourſe on the Olympic games, only adds confuſion to it. The whole skill and courage of the charioteers were (he ſays) employed to obtain the point of advantage at the wheeling, and he deſcribes them in this attempt all driving foul of one another, by directions all converging to this point; this, I ſay, may add to the confuſion, but does not relieve the difficulty, for ſtill the chariot, which was placed upon the right of all, had, in this firſt attempt, the hypothenuſe, or longeſt ſide of the triangle to run, while the chariot upon the left had only one of the *Legs* of the ſame right-angled triangle, and ſo the reſt in gradation; and what a ſcene of unavoidable inextricable wreck muſt all theſe chariots ruſhing together, in converging lines, have made! This ſeems ſo abſurd, that one cannot but reject it at firſt ſight, from the nature of the thing itſelf. But this attempt of running foul on one another, and croſſing upon each other, is contrary to *fact*, is contrary to the laws of the courſe, which forbad all fraud, all *croſſing or joſtling*, as our modern racers term it. And we find

in

in the 23d book of Homer's Iliad, that *Antilochus* was deprived of the prize he claimed (which prize was given to Menelaus) becauſe he (Antilochus) had croſſed upon, and attempted to run foul of the chariot of Menelaus.

All this perplexity is relieved, and the difficulty cleared up, by the explication which I have given above: for by *that* route of the race, he that was outermoſt at the ſetting off, returning to the ſame ground with the ſtarting-poſt upon the right, would be innermoſt at the coming in; and if the race conſiſted of more circuits than one, the competitors would be alternately outermoſt and innermoſt at each alternate wheeling. So that he who ran the largeſt circle in the firſt circuit, would run the leſſer in the ſecond, and *vice verſâ*.

Whoever will read the account of the chariot race in the *Electra* of Sophocles, and will particularly attend to the nature of the accident which happened between the Thracian and Libyan cars; and to the fatal one which befel *Oreſtes* at the cloſe of the race, will be confirmed in this opinion. The narrative tells us, That the chariots having finiſhed the *third circuit*,

circuit, and running the *fourth*, ſome of them had made the *ſeventh* wheeling, and were got again into the ſtraight right line, at that moment of time the *Ænian* charioteer coming up to the *Meta*, in or near the point where the route of the courſe muſt croſs; and his horſes, hard of mouth, breaking from him, ſwerved and run foul, with their front direct, upon one of the Libyan chariots. This is an accident that could not happen, if the returning line did not croſs upon the outgoing line, by the chariots running the courſe in the figure of eight. But the circumſtances of the diſaſter of the car of Oreſtes put the matter out of all doubt.

The narrative proceeds, and ſays, That this accident between the Libyan and Ænian chariots drew after it an almoſt general wreck of the chariots then running. But that the ſkilful Athenian, who was laſt but one, obſerving his time, bore to the right out of the courſe, and ſo avoided them. That Oreſtes, who lay by in the race, as having horſes of that rating way of going, that he depended upon the puſh at the laſt for his ſucceſs; finding that now was the time to make his puſh, bore ſtill more to the right, in order to paſs the Athenian; and, for this purpoſe, having given

given the left-hand rein to his horſes, moſt unfortunately run with the end of his axle-tree againſt the *Terminus*, at the coming in. Now unleſs this terminus had been upon his right at the coming in, this accident thus deſcribed could not have happened; but being upon the right, every previous accident naturally leads to it.

However, as the route of the race generally conſiſted but of one long courſe, returning again to the ſtarting-poſt, the only wheeling performed in it was to the left; but to make that matter even and fair, the chariots came in upon the left of the ſtarting-poſt, as above deſcribed; ſo that thoſe who were outermoſt at the wheeling round the meta, and had there the diſadvantage, were innermoſt at the coming in, and had that diſadvantage made up to them.

As in theſe courſes of one circuit, which were the moſt common, the only wheeling performed was to the left round the meta *; the horſe of the higheſt vigour and greateſt velocity was harneſſed extrajugal upon the right; and for the like reaſon, the beſt maneged and moſt flexile

* Vide Scholiaſt. in Antigone Sophoclis.

horſe

horſe * was harneſſed extrajugal on the left, becauſe the firſt was to bring round the chariot in the act of wheeling, and the latter to maintain a kind of equably moving fulcrum, upon which the whole motion of the wheeling depended; ſo that each had his perfection, and each was firſt and moſt excellent in his reſpective property; the attending to which diſtinction might have cleared Scheffer's difficulties. The horſes of the quadrigæ were generally, though not without exception, mentioned in the following order. Firſt, the extrajugal on the right: Second, the extrajugal on the left. Third, the jugal on the right. Fourth, the jugal on the left. I mention this, as it will be neceſſary to explain ſome terms which the reader will meet with in *Homer*, in *Sophocles*, and in ſeveral of the other claſſics.

Let the reader be led next, by this inquiry, into the application of this equipage; thus compoſed, and thus exerciſed to actual ſervice in war; he will find theſe chariots acting as diſtinct ſingle bodies, in ruſhing upon and breaking the ranks of the infantry, ſometimes by a direct perpendicular *attack upon the front*, but more

* Vide Sophoclis Electram.

commonly by wheeling ſuddenly to the right or left, and bearing down in a *tranſverſe line along the front*, ſo as to elude the points of the enemy's ſpears advanced in front. He will find them ſometimes ſtopping ſhort upon a ſudden halt, and ſtanding unmoved; while the officer, who was carried in them, jumps down upon the ground, and puts himſelf at the head of the infantry, or engages in ſingle combat. At other times he will find them coming ſhort about, and retreating. He will find them, upon other occaſions, acting in a compact corps, formed into a rank intire, in order to break the enemy's front, and then, by their various evolutions, making way for the infantry to paſs up to action; at other times he will find them drawn up in a body upon the wings, and ſometimes as a corps de reſerve in the rear. In ſhort, if we conſider theſe chariots, trained as they were with ſuch ſkill and diſcipline, and exerciſed to ſuch great perfection, in wheeling to right and left with ſudden and impetuous velocity, we ſhall eaſily perceive how every evolution of the cavalry might be performed in the ſame manner as the modern cavalry perform the modern evolutions of wheeling by fours; as alſo, how they might change their fronts,

fronts, reſolve themſelves into leſſer bodies, and unite again into one. I could quote inſtances of all theſe manœuvres, but I think it will be more pleaſing to the reader to apply theſe obſervations himſelf to the many inſtances which he will meet with in the courſe of his ſtudies.

Various were the methods taken and practiſed to *evade* this attack, which could *not be reſiſted* by the infantry, ſuch as wheeling back, and opening to the right and left; but the only one I ſhall take notice of is the manœuvre mentioned by *Polyænus* * in his Stratagemata. He ſays that Alexander, having learned that the Thracians had a powerful body of this chariot cavalry, trained his *Macedonians* to couch upon the ground, and with their ſhields thrown over them to form a teſtudo, over which the chariots of the enemy might paſs without effect.

As the Britiſh iſland was, in the very early ages of antiquity, planted by colonies from the great commercial nations in the eaſtern parts of the Mediterranean ſea; to the learning and arts of theſe poliſhed

* Lib. IV. c. iii. § 11.

people were planted in this land. The aſtoniſhing monuments of the Druids, who were the prieſts of thoſe colonies, are proofs of a knowledge in mechanics, which we of this enlightened day only wonder at, but are at a loſs to account for. This uſe of the chariots practiſed by the Aſiatics and Libyans, was the peculiar art of war in which the Britons excelled, and was peculiar to them. Although theſe colonies, and indeed almoſt the remembrance of them, had been in the time of Julius Cæſar overwhelmed by the barbariſm of the natives, and of other uncultivated people who had tranſmigrated from the continent of Europe; yet this peculiar Aſiatic art of war, the ſame as that uſed at the ſiege of Troy, continued to be uſed even ſo late as the time of his invaſion, by the then inhabitants: in this manege we find they excelled to a very high degree of perfection. *Diodorus* ſays expreſsly, that they uſed chariots in war exactly in the ſame manner as the heroes in the Trojan war * are ſaid to have uſed them. They uſed the ſame method of forming the line of battle, the ſame method of attack, and particularly that of *the tranſverſe attack*, which is what Cicero,

* Lib. V.

in

in the 6th epiſtle of his 7th book, refers to, in the caution he gives Trebatius to guard againſt theſe ſudden unexpected motions. The Britiſh order of battle, which Cæſar deſcribes in the 24th chapter of his 4th book of the Gallic war, *Concilio Romanorum cognito, premiſſo equitatu et eſſedariis quo plerumque genere in prœliis uti conſueverant, reliquis copiis conſecuti ſunt*, is exactly the ſame as that formed by the Greeks deſcribed in Iliad IV. I could quote other paſſages to the ſame purpoſe, but this is ſufficient.

As this was the peculiar art of war amongſt the ancient inhabitants of this country, ſo had they the ſame ſolemn races, to train and exerciſe their youth to this diſcipline, and to maintain the ſame honour towards thoſe who excelled in it. There are, to this day, remaining in England ſome veſtiges of the *Curſus* in which they ran theſe races; which races being attendants on the ſolemn meetings of religion, the curſus were near their temples. The moſt remarkable is that near Stonehenge, which is a long tract of ground, about 350 feet (or 200 Druid cubits) wide, and better than a mile and three quarters (or 6000 Druid cubits) in length, encloſed quite round with a bank of earth, ſtretch-

ing directly eaſt and weſt. The goal and carcer are at the eaſt end. The goal is a high bank of earth, raiſed with a ſlope inwards, whereon the judges are ſuppoſed to have ſat. The line of this bank is north and ſouth, directly acroſs the curſus, beginning from the ſouth bank of the curſus, not reaching quite to the north, but leaving a ſpace there for the chariots to paſs to the carcer, between this goal and the north bank, or ſide of the curſus. The metæ are two tumuli, or little barrows, at the weſt end of the curſus:

Some tomb, perhaps of old, the dead to grace,
Or then, as now, the limit of a race.

Pope's Homer.

as old Neſtor deſcribes the meta of the curſus on the plains before Troy.

From the very ſtate and form of this hippodrome, or curſus, my conjecture, as to the manner in which the race was performed, is confirmed in fact. Here we ſee that the chariots ſet out from the carcer, on the right (or northward) of the goal, and ran to the weſt end; whence, wheeling to the left round the metæ, they returned again eaſtward, and muſt paſs again to the northward, or left of the goal, keep-

keeping it on their right in their coming in to the carcer, at the end of the race, as I have before explained the race mentioned in Sophocles.

Doctor Stukeley, not adverting to this route of the race, but ſeeing that it muſt end to the northward of the goal, at the eaſt end, has been led to imagine, contrary to the fact of conſtant practice, that the chariots ran from the eaſt along the ſouthern ſide, and then wheeling to the right, north about the metæ, returned on the north ſide, and ſo ended to the northward of the goal. But the explanation which I have given is agreeable to practice, and confirmed by this exiſting fact.

The hyppodromes, or curſus, were called, in the language of the country, *rhedagua*; the racer *rhedagwr*, and the carriage, as we find, *rheda*.

One of theſe hippodromes, about half a mile to the ſouthward of Leiceſter, retains ſtill, under the various corruptions of ſpeaking and writing, the old name *Rhedagua*; in the corrupted one, *Rawdikes*.

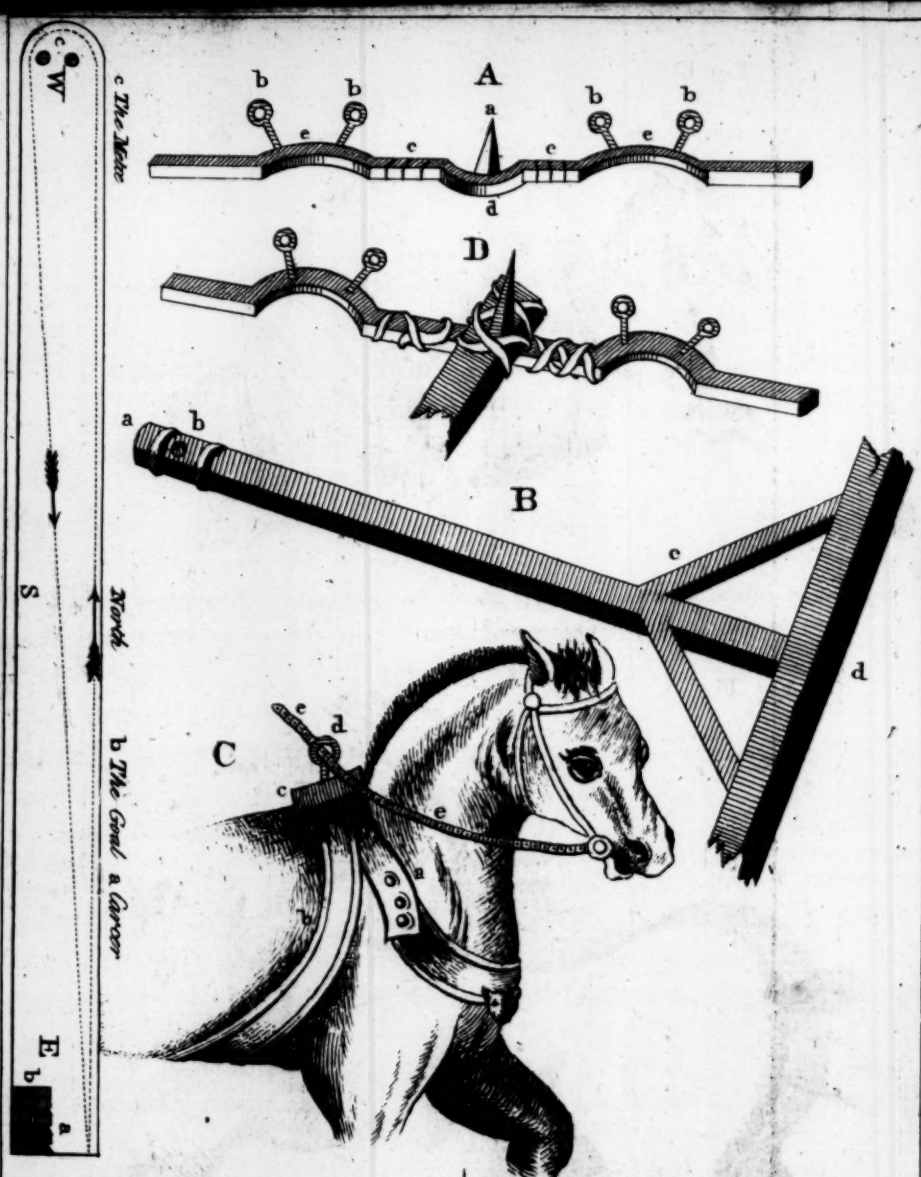
Doctor Stukeley ſays, there is another of theſe near Dorcheſter: another on the

banks of the river Lowther, by Perith in Cumberland; and another in the valley juſt without the town of Royſton.

Such were the equeſtrian ſports of the ancient Britons, who even in their *Paſtimes* encouraged a warlike ſpirit and emulation, and advanced the public welfare; for by making pleaſure ſubſervient to ſcience, and conſidering the race only as an exhibition of military ſkill, they dignified the ſport, and made their cavalry no leſs the delight and ornament of peace, than the ſupport and terror of war.

THE END.

BL



A *The Yoke.*

a *The Estor. Pin or Pegg which passed thro' ỹ end of the Pole.*

b *Oiikes the rings thro' which ỹ reins ran*

c *Omphaloi the Nitches in which ỹ Mesabos or Thong by which the Temo & Jugum were bound together sunk in the tying.*

d *The hollow bend in which ỹ Pole or Temo lay*

e *A like hollow or bend to receive the Withers of the Horses.*

B *The Temo.* a *Acros, or summus Temo.*

b *Krikes a hole thro' which ỹ Estor passd in fixing the Jugum to the Pole.*

c *Furca two Cheek pieces.*

d *The Axletree fixt by the Furca to the Pole*

C *A Horse harnessed drawn from the Horses over the Gate of St Mark's Church Venice &c*

a *Lepadna, or Collar.*

b *Maskalisteris, or Body Girth.*

both these met across the Withers of B *the Horse, & were there bound to yoke by the Zugodesmas.*

c *Section of the End of the Yoke.*

d *Manner in wch ỹ Reins pass'd thro' Oiike.*

e *The Reins formd by a kind of Chain to prevent their being cut. They were also stud*

D *Describes ỹ manner of joining the Yoke & Temo by means of ỹ Mesabos, tied accord -ing as described by Homer 3 times over ỹ Pole, 3 things round each Side.*

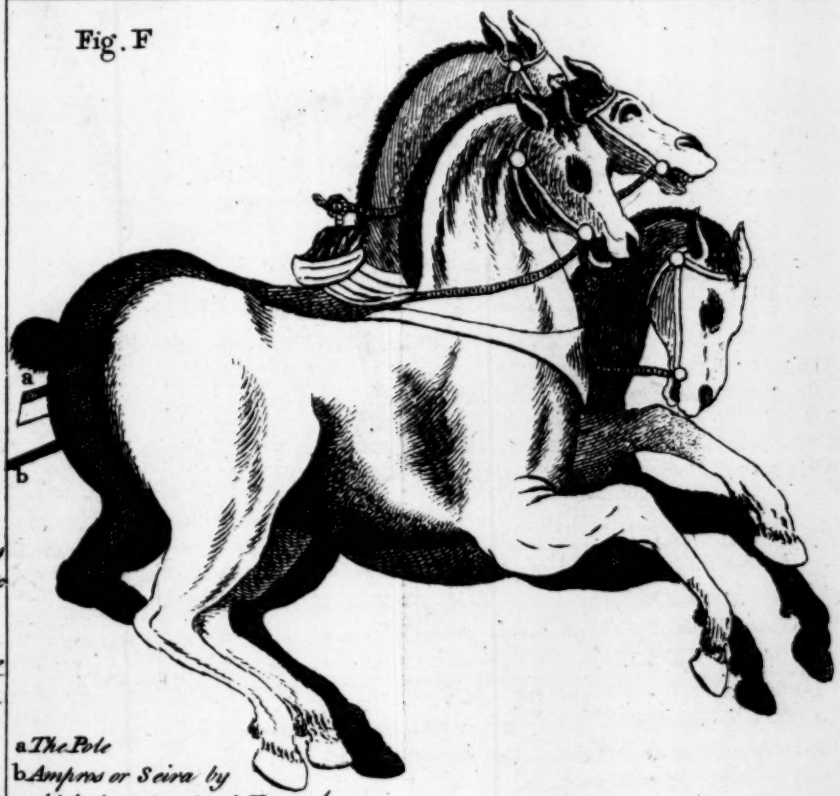
T Pownall del

Fig. E

×× Here seems to be a kind of Cushion on which the Yoke lies on the Withers this is singular.

A rough Sketch of the manner of harnessing the Horses in the Bijuga agreeable to my description, as taken since from an Etruscan Vase in Passeri's antique Paintings.

Fig. F



a The Pole
b Amphos or Seira by which the extra-jugal Horse drew.

Manner of a Quadriga taken from Plate 117 of Winckleman's Ancient Monuments, to shew the manner of harnessing the extra-jugal Horse. In this drawing the Quadriga is in the Act of wheeling to the right. The right hand Horses are upon their Haunches, and the left are stretching out.